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OVERSIGHT OF REGIONAL AIRLINES

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON COMMERCE SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

NINETY-NINTH CONGRESS

FIRST SESSION

ON

REVIEW THE CONDITION OF THE REGIONAL AIRLINE INDUSTRY

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OVERSIGHT OF REGIONAL AIRLINES

TUESDAY, NOVEMBER 5, 1985

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
SUBCOMMITTEE ON AVIATION,
Washington, D.C.

The subcommittee met, pursuant to notice, at 9:30 a.m. in Room SR-253, Russell Senate Office Building, Hon. Nancy Kasebaum [chairman of the subcommittee] presiding.

Staff members assigned to this hearing: Steve Johnson, staff counsel and Steve Palmer, minority professional staff member.

OPENING STATEMENT BY SENATOR KASSEBAUM

Senator KASSEBAUM. The hearing will please come to order. The purpose of this hearing is to review the condition of the regional airline industry, with a focus on safety. This hearing follows up on the hearing that we held a couple of weeks ago.

I very much appreciate the efforts of those who have come to testify this morning. I would like to go over just briefly some of the issues that I think are important for us to focus on. They are: the impact of deregulation on the industry, the industry's safety record overall; pilots' experience, training, and qualifications, and attrition; and maintenance procedures and FAA inspections.

I think it is interesting to note just for the record that in 1978 regional airlines carried 11.3 million passengers between 681 communities. In 1984, the regionals carried 26.1 million between 853 communities. I think this points up a dramatic increase in the traffic of the regional carriers.

It is a great pleasure to welcome our first witness this morning. I am very pleased that the Honorable Patricia Goldman, Vice Chairman of the National Transportation Safety Board, can be our lead-off witness.

I am sorry. I forgot to ask Senator Exon if he had an opening statement. My apologies.

OPENING STATEMENT BY SENATOR EXON

Senator EXON. Yes, Madam Chairman, I do.

This is a tremendously important hearing and I am delighted, Ms. Goldman, that you are here this morning to give us your expertise on this matter. As the chairperson has indicated, the significant increase in commuter airlines, especially for those of us who live in and represent rural States, has been a godsend. If we had not had commuter airline service, I suspect with the rush of the major airlines to the population centers, that we would have been left wanting.

Commuter airlines today are playing an increasingly critical role in providing air service to small communities, including those designated as eligible for the Essential Air Service (EAS) subsidies. In my own State of Nebraska, commuter airlines dominate our airways, as there are eight communities served by regional airlines under the EAS program.

In 1978, commuter airlines carried some 11.3 million passengers. Six years later, that figure had more than doubled to 26.1 million. Today, over 200 commuter carriers serve some 681 airpports throughout the country. And with new interlining agreements between commuters and the major air carriers, these numbers will only grow.

Because of the record number of air carrier accidents in 1985 and a belief by many that smaller turboprop aircraft afre not as safe as larger jets, the safety record of the commuter airline industry has recently come under intense scrutiny. Yet, in 1985, the commuter airline industry has had one of its safest years ever, with only 1.14 accidents for every 100,000 hours of commuter airline flighttime. This is down from an accident rate of 4.68 in 1978.

Seven fatal commuter accidents have occurred thus far in 1985, with 36 people killed. It is out of a concern for those lives, as well as the safety of the more than 26 million who fly on commuter airlines, that our subcommittee has called today's hearing.

It is vital that we on this Committee better understand the safety measures being taken by commuter airlines, as well as to hear first-hand of the efforts being taken by the FAA to monitor and enforcxe the safety standards affecting the commuter airline industry.

I look forward to hearing from today's witnesses on this critically important matter. I want to stress muy stron belief that without experts like those coming before us today, we would not be able to adequately fulfill our oversight responsibilities. I therefore want to thank them for their assistance.

I just want to emphasize again that, in addition to providing service to our rural communities and rural areas, we are especially concerned—I think we all must be—with regard to safety and with the significant increase, and doubling or tripling in some places, of the commuter airlines in the skies. I think that should send a signal to us that, with few if any more air traffic controllers and a doubling and tripling in some cases, as I have said, with regard to commuter airlines, that there are just that many more objects flying around up there in that ever-congested sky.

This committee has been very concerned about this. We think generally a good job is being done, but it is no time to rest on our oars. I suspect we have a tremendous challenge in this area in the future, and therefore I compliment the chairperson for calling this portion of our series of hearings, first to listen to the needs of overall safety, and secondly, the concerns that the commuter airlines have, which we certainly share.

Thank you very much.

Senator Hollings has an opening statement for the record.
[The statement follows:]

OPENING STATEMENT BY SENATOR HOLLINGS

For people in the States many of us on this Committee represent, the commuter airline industry has become virtually the only means of air transportation available. Since deregulation of the airline industry, a vast number of smaller and medium-sized communities throughout the country have lost jet passenger service, only to see an influx of regional carriers. Now totalling 216 operators, these regularly-scheduled airlines use smaller turboprop aircraft to fly thousands of passengers to the major airports, where they can interline with other airlines and travel to points throughout the nation.

In recent months, as public attention has turned toward the rising number of airline accidents and near-misses, the safety record of the commuter industry has been questioned. Commuter accidents, of which there have been 15 thus far in 1985 (seven of which have been fatal) have not grabbed the headlines as have accidents involving larger aircraft, but they are numerous enough to warrant a closer look.

Let me emphasize that the Committee's intent in holding this hearing is not to single out the regional airline industry as being unsafe. Rather, it is our hope to better understand this important component of the airline industry, as well as its relationships with the FAA.

Among the issues we hope to address in today's hearing include the role of the Federal Aviation Administration in enforcing its safety standards for commuter airlines; the problems related to the high turnover of pilots to the major airlines; and the need for improved training for the flight crews of these regional airlines.

I want to commend both Senator Kassebaum and Senator Exon, who as Chairman and Ranking Democrat on the Aviation Subcommittee have recognized the need for oversight of commuter safety and have acted quickly to put this hearing together. I want to work with both of them, as well as our expert witnesses, in order that we can continue to assure improvements in the safe operation of our nation's airlines.

Senator KASSEBAUM. Thank you very much, Senator Exon.
Senator Rockefeller?
[No response.]
Senator KASSEBAUM. Ms. Goldman.

STATEMENT OF HON. PATRICIA GOLDMAN, VICE CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD

Ms. GOLDMAN. Thank you, Senator Kassebaum, Senator Exon, Senator Rockefeller.

As you noted in your opening statements, aviation safety has received a great deal of attention this year because of the catastrophic nature of some of the accidents. Less commanding of media attention have been the accidents in the commuter industry, and it seems to be the nature of that that, unless someone who is a well-known personality is on one of these planes when they go down, it does not seem to get quite the attention.

And yet, as you noted, it is of still great safety concern to us and those interested in the industry. We regard the operations of what are known as the scheduled Part 135 operators to be just as important in the Safety Board considerations as the 121's.

You also noted that since deregulation the commuter airline industry has grown at a remarkable rate, and every measure of exposure that you note therefore has increased. Our records show that, while this growth has occurred, and I think while we're going to be pointing out some of our concerns about commuter safety, it also should be noted that there's been a dramatic improvement in the safety record during the same time.

When cited in terms of departures—the accident rate has dropped from 2.76 accidents per 100,000 departures in 1979 to .78 in 1984. Likewise, the fatal accident rate has decreased significantly during the same period, and our records seem to show that in 1985 the record is going to be consistent with last year's performance. So, therefore, we should note that the statistics are holding up for the commuter industry and that should be praised.

While the commuter airline accident record has improved significantly, the Safety Board's records show that there continues to be a four to one disparity between the accident rate achieved by commuters and the accident rate of the air carriers operating under Part 121. We at the board, and I think everyone in aviation, understand that the particular nature of commuter operations compared to the majors results in frequent exposure to accident-producing hazards. So to a degree there are reasons why that disparity continues.

Some of those, of course, are low altitude weather encounters, approaches and departures to airports without precision approaches, operations at airports without air traffic control services, and operation of aircraft with less sophisticated navigational and safety equipment than those that are operating under Part 121.

These factors obviously have a great bearing on the records that I was just talking about. But with that, we have a concern at the Safety Board to try to improve that record, and we believe that most of the passengers get on the commuter airline expect that the fare entitles them to a safe ride also, and so therefore we must still pay attention.

The Safety Board since 1975 has issued over 100 recommendations to FAA, and to some of the airlines, regarding their operations. We are pleased to say that in most of those cases the FAA, and the industry have been very receptive. However, there are still some areas for improvement, and that is what I would really like to focus on today.

Ongoing investigations of our recent accidents further reinforce the concerns that we have had and I think the need to address them. For example, the September 23 crash of the Henson Airlines Beech 99 airplane illustrates, I think, the demanding nature of the commuter operations.

That is one accident in which I was in charge of the investigation. The airplane in question crashed near Weyers Cave, VA, as the flightcrew was attempting to complete an instrument landing system approach in rain and clouds at the Shenandoah Valley Airport. The investigation to find the reason why the airplane was well off its proper approach path when it struck the mountainous terrain is continuing and therefore we do not have all of the facts nor analysis for you yet, and I would stress that.

However, one area should be noted, for the subcommittee's consideration, and I will be happy to discuss whatever other factual things you may need. In this case, the pilot-in-command and the first officer on that flight met all the current FAA requirements for their duties. The captain had about 3,000 hours total flight time, 115 hours flight time as pilot-in-command, and 300 hours in a Beech 99. He had qualified as a pilot-in-command 38 days before the accident. The first officer had 119 hours in the Beech 99.

Another recent accident the Board is investigating occurred on August 25 when a Bar Harbor Airlines flight crashed while attempting an instrument approach in Lewiston, Maine, the Lewiston-Auburn Airport. The flightcrew on that flight, also a Beech 99, had similar flight time qualifications. Both the pilot and the copilot had less than 200 hours time in their respective positions.

I would stress again that they all met FAA requirements. Yet, the experience of the commuter airline crews must be contrasted with the experience of the typical captain of a major air carrier, who probably served a 10 or more year apprenticeship as the first officer before qualifying as pilot-in-command.

The commuter pilot qualification issue I think is easy, to understand and yet hard to solve. The commuters are serving as an apprentice ground for the larger air carriers. This has increasingly become the case in the last several years.

The pilots are often young, work for relatively low wages to gain experience, and then are quick to jump to the larger carriers as the opportunity arises. Thus, the commuters are experiencing an enormous turnover rate, and if this continues, I might add, it may be a problem that we are going to be seeing at the majors.

I do not mean, and I would stress to you, that the low or high time necessarily equate to a given level of safety: high time will not guarantee an absence of problems pertaining to an accident nor will low time mean there is an accident potential. But I think it is something that we need to look at when you get difficult conditions and have people with low time.

Exacerbating the situation of low time is the type of training that is available for commuter operators. The major air carrier operations rely heavily on the training devices and sophisticated simulators to conduct their initial, transition, upgrade and recurrent training. The FAA requires, approves, and oversees that training program.

The major air carrier training programs typically will be comprehensive and include time in a simulator. Those are available for most larger aircraft as a means of exposing flightcrews to the non-routine and the emergency situations which cannot be demonstrated during actual flight.

Even the less sophisticated training devices, such as procedure trainers, can be used to teach standard procedures. The major air carriers' training programs take full advantage of these devices.

Unfortunately, high fidelity training simulators are not available for the typical commuter turboprop or reciprocating engine powered aircraft, mostly because of the relatively high cost of developing and building such equipment. For the commuters, it is simply cheaper and easier to train in the actual aircraft to meet the FAA minimum requirements, and, unfortunatel,y I think the level of training might suffer.

We have followed the Regional Airline Association's active efforts to change this situation by proposing FAA regulatory changes that would permit operators to substitute training in less sophisticated, but more cost effective, training devices. And I am sure they will probably address that when they testify before you.

We cannot overemphasize the significance of training simulators in the safety record of the major air carrier operations, and we certainly would strongly support some type of FAA-RAA cooperative effort to improve this situation so that something can be developed to provide a better enhancement for that kind of training.

The Safety Board has also registered before, in another area, concerns about the lack of cockpit standardization. Recent investigations have highlighted the tendency of new or growing commuter airlines to purchase aircraft from different sources without regard to standardization in cockpit or equipment configurations. There appears to be too little emphasis given to the possibility of design-induced mistakes due to varying displays, controls, navigational radios, and so on. It is not unusual for a carrier to have three or more different configurations within the same model aircraft.

We have also addressed in the past a potential problem of impaired cockpit communication in the typical turboprop twin-engine airplane. These airplanes seldom have intercom systems and noise level measurements show that normal voice communication can be difficult.

We continue at the Safety Board to believe that intercom systems should be a requirement where noise levels can reach intolerable thresholds. We have made some recommendations in that regard to FAA and still feel that this is a problem.

The adequacy of the FAA's surveillance of regional airlines has been a subject of discussion in the Board's last appearance before this committee. We continue to be concerned about the numbers and qualifications of the inspector force to oversee the operational and maintenance function of the new and established regional airlines.

We commend, I might note, the FAA for its initiative in the National Air Transportation Inspection, known as the NATI program, and we are encouraged by the recent announcements that the inspector staff will be reinforced over the next two years. We will continue to keep an eye on this.

One of our recent investigations has caused us to be concerned about the adequacy and accuracy of terminal weather information provided to flight crews of commuter aircraft. In many of these operations, the only weather information for flight crew's approach and landing decisionmaking is provided by a company employee who is certified by the National Weather Service to observe and disseminate that information.

In the investigation of an accident involving a North Pacific Airlines Beech 65 at Soldotna, AK, in February, we found several discrepancies in the operation of the supplementary aviation weather reporting station. We subsequently made some recommendations about that and we continue to be concerned and will oversee this area.

The Safety Board has repeatedly advocated the need to equip a broad range of aircraft with flight recorders, which would permit more definitive analysis of the accident causes. The current regulations for commuter and air taxi operations require cockpit voice recorder only in turbojet airplanes having a passenger seating configuration, excluding pilot seats, of 10 seats or more.

There are no requirements for recorders in the turboprop-powered airplane or rotorcraft, even though they may carry up to 19 passengers. The FAA recently has proposed rulemaking to require that newly manufactured turbine-powered airplanes that require two pilots and carry six or more passengers be equipped with a cockpit voice recorder. Although the Safety Board supports this requirement, we believe it is totally inadequate for accident cause determination or identification of needed safety actions. Our recommendations have recognized that Part 135 recorder requirements must be commensurate with the size and design complexity and cost of the aircraft used in regional airline service.

We believe, however, that standards recently issued by the Society of Automotive Engineers are consistent with these goals. The standards prescribe both cockpit voice and flight data recorders on both fixed and rotary wing small aircraft. Until the FAA takes the initiative to require these recorders, the causes of accidents will remain elusive, as will the identification of accident prevention actions. And I would cite in this regard the PBA accident, which had we had those kind of recorders the problems we have had with that investigation would have been, I believe, much more simplified.

The Safety Board also believes that the time has come for the FAA to consider the development of nine low-cost ground proximity warning system for turboprop planes. Such equipment has virtually eliminated what has been known as "controlled impact into the terrain," a rather unfortunate phrase for which the Safety Board annually receives an award. But we feel that that could be also greatly reduced if some way could be found to develop such a system for commuters.

In conclusion, Madam Chairman, the Safety Board recognizes the advancements made in commuter airline safety, but we continue to believe that more can be accomplished. We believe that airline passengers should not be subjected, sometimes unknowingly, to a lesser level of safety when his or her travel arrangements include commuter airline travel.

It is a good system. We believe it can be a better system, and we will continue to monitor that.

Thank you.

Senator KASSEBAUM. Thank you very much.

I would like to start a bit about the pilot experience, and as you mentioned in the Henson accident. Does less flying time for a pilot necessarily mean that pilots will be less safe than pilots with more time?

Ms. GOLDMAN. It does not because obviously we have seen a variety of accidents where pilots with quite high time have been involved in accidents in majors, where we have cited that regrettable pilot error.

What concerns us is when you have a pilot with low time who has not had the kind of experience and training that I have cited that the majors can get, when you get into either a bad weather situation or a very dicey situation. What we frequently note at the Safety Board is that it is usually not a single failure or a single problem, but it is the loading on of a variety of factors.

So that if you get into a situation where a pilot has low time, has had limited experience, you might get a bad weather condition, you might have a problem with a lack of standardization, as I mentioned, in the cockpit, and all of these factors come together, then the pilot with the low time is, we feel, less able to cope than someone who has had a greater experience. That depth of experience in difficult situations can enhance the safety.

Senator KASSEBAUM. Has the NTSB made any recommendations to the FAA? Should they, for instance, require that a pilot have more experience?

Ms. GOLDMAN. We have not yet made a recommendation. I think we are in the process now of the several investigations where I mentioned that would be a consideration.

It need not be a matter of regulation all the time. In fact, the standards could be set by the industry themselves. The number of hours required are the same for Part 121 or Part 135. By the nature of their hiring, the Part 121 or what are known as the major carriers have their own, in many cases, requirements that would call for extra hours.

So we are appreciative of the problems that the commuter airlines are having and sympathetic to that because of this desire for pilots to upgrade, what they call upgrade—and I do not mean that as anything against the commuters. And so therefore, this would be something that I think the industry itself needs to address. It would probably be a long time before we could get regulations out through the regulatory process, and therefore I think we need something a little sooner to address the problem.

Senator KASSEBAUM. Do you mean to imply that commuter airlines are less safe, perhaps, than Part 121, carriers?

Ms. GOLDMAN. Well, when you talk about it statistically, there is a four to one disparity, as I say. There is by a statistical standard a greater accident risk if you are flying on a commuter. We know that there are mitigating circumstances and the reasons for that, as I just mentioned: lack of more sophisticated equipment, low altitude weather conditions, operations of airports without air traffic control services, approaches and departures to airports without precision approaches—a variety of things.

What we feel is that that gap could be reduced, and the commuters have worked on that, and they have reduced the gap. But we feel that there has to be more work done in that area. Statistically it is less safe, but that is not to say it is unsafe.

As you know, on the Safety Board we are frequently talking about the margins of safety. What we would like to do is increase the margins for commuter operations.

Senator KASSEBAUM. One thing that you touched on in your testimony were the recommendations that NTSB, I believe over a period of at least several years, had made regarding the flight data recorders and cockpit voice recorder for the commuters.

Why do you think these recommendations have not been received with any particularly great enthusiasm?

Ms. GOLDMAN. Well, I can only quote and I can put in the record the exact quotes from the FAA letters of response. But the reason cited is that it is not cost beneficial. They cite that the reasons have changed as we have developed over the years and as I look back, even to a time before I came on the Board.

The original reasons given were that they were not technically developed so that there would be recorders that would not work in these circumstance. That problem now seems to have been resolved. As I cited, there are standards that have been developed by professionals in the field and it is now possible. So that argument seems to have been eliminated.

Now the argument is that it is not cost beneficial. We do not feel that is accurate on newly manufactured planes when looking at the cost of the plane and what we believe to be roughly the cost of the recorders. We do think that it would be cost beneficial.

Senator KASSEBAUM. You cited the Henson accident. Was there a cockpit voice recorder in that aircraft?

Ms. GOLDMAN. No.

Senator KASSEBAUM. There was not?

Ms. GOLDMAN. There was nothing on that.

Senator KASSEBAUM. And you feel——

Ms. GOLDMAN. And planes of that nature do not regularly have them, do not have them at all that I am aware.

Senator KASSEBAUM. Do you think that would have made a significant difference to your investigation?

Ms. GOLDMAN. It can make a significant difference. It is not just, as I would point out, to make the Safety Board's work easier. It is not for our benefit, but what we can learn to avoid these accidents.

For example, in the PBA accident that I cited in Florida, there are a variety of things, as you well know from the hearings you have had, that we can learn from those recorders—information that would assist determining the reason and thereby help us find a way to eliminate that type of accident in the future.

Senator KASSEBAUM. Thank you.

Senator Exon.

Senator EXON. Thank you, Madam Chairman.

Ms. Goldman, let me ask you this question about commuter airlines in general, and I do not know the answer to this. But I get the impression from watching the operations of commuter airlines that they make very efficient use of aircraft.

It seems to me like commuter planes are in and out very quickly. They land and people are waiting, and they rush them onto the airplane and away they go. Are there any statistics or have you done any studies on maintenance checks, maintenance operations on the commuter airlines as opposed to the major airlines?

And does the aircraft, given the different aircraft, which for the most part are not jets--do the commuter airlines have a higher degree of risk because of possible overuse and maybe overscheduling of their modus operandi for hauling their paying customers?

Ms. GOLDMAN. Well, in reference to your question, the Safety Board always, in every accident case, looks at the maintenance and goes into that as a matter of course. We in particular went into that—if you remember, in Air Illinois and got heavily into the question of maintenance and inspection, particularly in surveillance.

The airlines have to adhere to standards that are set. We are pleased that in fact the FAA has made a significant effort to increase their inspector force to make sure that they abide by those regulations that would make sure that, in the kinds of situations that you are talking about, since they are in heavy use, that all of those requirements are met. And we are pleased that they seem to have done that.

The FAA also, I am sure they will cite, has a training program to try and bring their inspectors in line, because many times they had had inspectors who were working in this area who perhaps were not as familiar with the kinds of operations that they were now involved as the commuter industry expanded.

So we are pleased to see the trend in that regard. And in terms of the trends that you were asking about, I do not believe we have any statistics in that regard.

Senator EXON. With regard to the regional carriers, have you had significant complaints, directly or indirectly, from these airlines with regard to fair treatment and consideration from the FAA employees, the air traffic controllers? Are the commuter and regional airlines given the same general consideration as are the major carriers, or are they considered second-class citizens by the air traffic controllers?

Ms. GOLDMAN. I would really refer that to the operators who are going to be following me in testimony. I have not heard anything in that regard. I have had the opportunity to listen to some of the air traffic control tapes in regard to the accidents that we have been following. I haven't noted anything in that regard, but they may have a different experience beyond the limited exposure that I have had to that environment.

Senator EXON. I would just caution you—and I am sure you do not intend this way—but I think, unfortunately, all too often we wait until after an accident happens and then we do a thorough investigation.

I am not sure that we maybe emphasize preventative maintenance as much as we should. That might be as equally important as far as overall safety is concerned, rather than going back and trying to reconstruct something after it happens.

I guess I do worry about the proliferation of regional carriers, the demand for equipment, the demand for pilots, the demand for crews. All of these things seem to me like put an awful lot of pressure on this industry that is playing such a terribly important role today, at least as far as some of our States are concerned, and I just hope that the National Transportation Safety Board will continue to do the general good job that I think you have done in the past, with a special consideration to this new part of our industry that is growing by leaps and bounds—I guess faster maybe than other previous history in aviation in general.

This is a mushrooming effect that we have had with the numbers of commuters that are in the air. So I would just hope that you could continue to take a look at that. I think it is tremendously important.

Thank you, Madam Chairman.

Ms. GOLDMAN. I would thank you and I would note we are under some criticism, since the rates do not show an increase, for even mentioning that there are any problems. So I appreciate that support.

We do want to try and be here, pointing to things to eliminate problems before we come back and tell you that there has been a bad trend in accidents. So thank you.

Senator KASSEBAUM. Senator Rockefeller.

Senator ROCKEFELLER. Thank you, Madam Chairman.

I thought that your testimony was very good, and I was personally very pleased by it, because it seems to me to have an aggressive attitude.

If I were in the business of a commuter airline, it would be my guess that I would be struggling constantly. I remember after the OPEC oil embargo in 1973, everybody who had any interest in coal in the world started coal mining because they felt the future was unlimited, and they discovered the future was limited. And then gradually, those who could not afford to stay in business did not, and some who could not afford to stay in business did.

And that, of course, is where the safety problem comes.

But generally speaking, what you have indicated here is not only an aggressive attitude, but also some real dilemmas. You say, for example, in the Shenandoah Valley Airport situation, the pilot in command had 3,000 hours, meeting the absolute, full, flat-out qualifications under the highest FAA standards. The same was true of the second in command. I would assume that even as there are—you talk about the 25 percent turnover for some sommuter carriers, but still those are people coming out of, a lot of them, out of the military or out of training or out of various situations, and it is sort of a skillful situation that flows into the majors.

Nevertheless, the little ones, the commuters on which we depend almost completely in West Virginia—deregulation ended all of our service from the majors, and the commuters are our life blood. Their margin of profit, I would imagine, would be very, very small. And that would make me ask, for example, as to what they are required to do by the FAA for their pilots for training.

The Shenandoah Valley situation was a perfect one, a very good one in terms of the training. Does the FAA set training standards for commuter airline pilots? Are they required to have a certain number of hours before they can take off?

Ms. GOLDMAN. Well, the standards, in terms of being able to operate as a pilot in command, are set by the regulations. Those are, I would say, a minimum standard to which they have to apply.

Senator ROCKEFELLER. Do you know what they are? Are they like 70 percent of the major airlines in terms of numbers of hours required?

Ms. GOLDMAN. No. The standards are the same for the majors or for Part 121.

Senator ROCKEFELLER. The standards are exactly the same.

Ms. GOLDMAN. Exactly the same basically, in terms of serving as a pilot in command. The distinctions become, and in terms of the other questions you will be talking to the commuter operators, the distinctions become, as I mentioned, in training and experience.

Traditionally, those going into service in the Part 121 operations have had greater experience. They have come along a particular training route. There are also different things in their training, like the simulators. When you consider people who have had limited number of hours and also because of the turnovers who have not had a great deal of experience flying with each other, we have placed a lot of emphasis in the past, particularly discussing after accidents, in what we call crew coordination.

And many of the major carriers have, paid a great deal of attention to this in their training. These areas and standards are really voluntary to a degree in that the FAA regulations do not speak to them in great detail. The FAA provides certain minimum standards and after that, it is up to the carriers to decide. There are certain minimum training requirements and standards established, but beyond that is set by the carriers.

Senator ROCKEFELLER. Okay.

When deregulation came, there was a standard set by the Congress to ensure that there would be service for smaller communities which would be affected, or potentially affected by this. And at that time, the essential air service subsidy came into being, and it was meant to last for 10 years through 1988.

Now, are there limitations on how the essential air service subsidy can be spent? Can that be spent? Is that spent, for example, by commuter airlines in a general manner, on safety training, on maintenance, on those things which relate to safety?

Ms. GOLDMAN. I cannot speak to that, Senator. Fortunately, under our mandate of the Safety Board, we don't get into those economic areas, so you will have to ask the FAA or the commuter operators on that.

Senator ROCKEFELLER. I will do that. But you are not aware of how that is used, the essential air service?

Ms. GOLDMAN. I do not know that; no.

Senator ROCKEFELLER. Do you have the general impression that if the essential air service subsidy or underwriting, so to speak, were not there, that there would be fewer commuter airlines operating?

Ms. GOLDMAN. Again, in terms of their financing, I only know what I read in the papers or see in the various trade publications. Again, the economic underpinning of the industry is not in my area of knowledge.

Senator ROCKEFELLER. Okay, thank you.

Senator KASSEBAUM. I would like to ask another question regarding pilot training. Do you think the FAA should consider keeping a record of the type of training that a pilot has received—for example, the type of simulator training received and the experience and hours with a certain type of aircraft? Also, Senator Goldwater believes that pilots should have aerobatic training and believes that this would sharpen a pilots' reaction to any unexpected unusual attitudes.

Ms. GOLDMAN. In terms of the record of the training, the airlines keep those records and in fact we review them when we go to do an accident investigation.

Senator KASSEBAUM. All airlines keep a record.

Ms. GOLDMAN. So we have those training records available to us so that we know that they have met the requirements, and then see what additional training may be necessary. So those records are available to us when we do accident investigations.

Senator KASSEBAUM. But is that required?

Ms. GOLDMAN. To tell you the truth, I should know that, but I believe that it is required and that is why they do it. But the airlines keep those records.

Senator KASSEBAUM. During the testimony that we had regarding aviation safety in general I was curious to know if in the Dallas crash, attributed to wind shear, whether the captain, had had any simulator training, and if so, what type.

Ms. GOLDMAN. We have a record of that. For example, in having been involved in a similar one at Kenner, what we do is go back. We know what units they have had in simulator training and whether that is included because the major airlines now do and the majors have components that include wind shear in their simulator training.

So that is always available to us and we do know what they have.

Senator KASSEBAUM. That you.

Senator Exon.

Senator EXON. A followup question on that subject. Is it not true that one of the concerns as far as safety in regional commuter airlines is that they do not have—and it is understandable—all those simulators that the major airlines have with regard to pilot training? That is true, isn't it?

Ms. GOLDMAN. That is correct.

Senator EXON. Secondly, a followup on the question that the chairperson asked about emergencies. I had assumed that stall procedures, losing one engine, losing two, losing everything, is something that all certified commercial pilots are checked on periodically, once a year. Is that correct?

Ms. GOLDMAN. In terms of getting their certificates, those kinds of various procedures are done in getting their training and getting the things which eventually qualify them to be a pilot and get their certificate.

In terms of that they are regularly checked by the FAA, and then the airlines themselves have what are known as check pilots, who check other pilots, so there is a continual demonstration of proficiency that is required.

Senator EXON. Well, isn't it true that the FAA has operations inspectors that go out and check out the commercial pilots? Isn't it also true that one of the techniques is for the inspector to just cut the engines on an aircraft and see what happens?

Ms. GOLDMAN. I have not been in the cockpit when they do that.

Senator EXON. I haven't either, and I don't want to be. My question is, is that a testing procedure or is it not?

Ms. GOLDMAN. That is not my understanding. Whether it is or not, I would ask you to talk to the FAA as they come to see exactly what they require their inspectors to do.

Senator EXON. Thank you.

Senator KASSEBAUM. Thank you.

Senator Rockefeller.

Senator ROCKEFELLER. One more quick one, just for my information. You talk about the simulators and procedure trainers at the major air carrier level. Later on with respect to measurement, you talk about the ground proximity warning system.

Are these things which are paid for, once developed and in use, entirely by the training procedures, entirely by the Federal Government, or does the FAA develop them, test them, and then the majors become responsible for their purchase and operation?

Ms. GOLDMAN. Well, you are talking about several things.

Senator ROCKEFELLER. Well, let's take simulators.

Ms. GOLDMAN. In simulators as I understand from the proposals that I have read that the RAA, the Regional Airline Association, has made to the FAA, one of the problems is that the cost of absorbing the development of those simulators is not possible to be undertaken either by the regional airlines individually or collectively.

Senator ROCKEFELLER. That is the reason I am asking the question. In terms of precedent, would the majors—is the cost of the development, or was the cost of the development done by the Federal Government, by the FAA?

Ms. GOLDMAN. It is not my impression. I was not involved at the time those were developed. I wish I could tell you that.

Senator ROCKEFELLER. Could you find that out for me?

Ms. GOLDMAN. Certainly.

[The following information was subsequently received for the record:]

In simulators, as in airplanes, the cost of development is borne by the industry—not the Federal Government. Before industry will commit to the development of new equipment, however, they need to be assured that the equipment when developed will be acceptable to the Federal Government for the purpose for which it is intended. Generally, in the case of equipment like simulators, industry will see the need and the market, establish criteria and approach the Federal Aviation Administration (FAA) to review the criteria and determine whether they can reach agreement that the simulator, for example, can be used to comply with training requirements in the regulations as a substitute for flying the airplane. If industry—in this case simulator manufacturers and air carriers—see a sufficient benefit, safety and economic, they will continue necessary development. The development costs incurred by the manufacturer will be spread over the cost of equipment sold to air carriers or possibly a consortium of air carriers who agree to use a common training facility, or private enterprise who market an air carrier training program.

In the case of simulators for the training required by regional airlines—until FAA makes some commitment to accept simulators with limited capability as adequate to conduct training that would otherwise require use of an airplane—the manufacturers and air carriers are not willing to commit money for which there may be only limited or no return.

Senator ROCKEFELLER. The whole question remains what it is that commuters can afford to do. It is one thing to talk about needing low ground proximity measurement devices or simulators, procedure trainers, and then to be able to afford to do it. That is an area not only of substance but of precedence.

Ms. GOLDMAN. In terms of the developments of the ground proximity warning devices and so forth, those can, and there are research and development funds which are available through the FAA, and some of that can be used. And certain research is done through the FAA, but I will check on the precedent for the simulators.

Senator ROCKEFELLER. Thank you.

Senator KASSEBAUM. Thank you very much, Ms. Goldman.

[The following information was subsequently received for the record:]

Questions of Senator Exon and the Answers

PILOT CERTIFICATION

Question 1. Your testimony highlights the problems in the commuter airline industry with rapid pilot turnover and insufficient training. Similarly, you acknowledge that it is a difficult problem to resolve. What are some things that you think the FAA should be doing to improve commuter pilot training? Should the FAA consider increasing the minimum requirements for an individual to receive an Air Transport Pilot's license, and thus be able to pilot a commuter aircraft?

Answer. Commuter pilot training could be improved substantially by the use of flight simulators and training devices. Simulators and training devices provide the best opportunity to practice emergency procedures and dangerous maneuvers such as engine failures during takeoff and landing and recovery from unusual attitudes. The training is safe, realistic and efficient.

The Safety Board believes that improvements in the commuter air carrier safety record will come from better crew training, improved enroute and terminal weather observation and dissemination and increased FAA surveillance. The Safety Board has not considered recommending that the minimum aeronautical knowledge, experience and skill required to be eligible for an airline transport pilot certificate be increased.

TRAINING

Question 2. You state that as a result of the lack of certified training equipment, commuter airlines must use their aircraft for training, which thus suffers. Why don't we now have such training equipment available for commuter operators? Does the problem lie with the FAA in certifying training equipment?

Answer. While the use of simulators and training devices is becoming more and more feasible with advances in technology it also carries a high price tag. The cost of these training aids can range from many thousands of dollars up to a million dollars or more. There is a hesitancy on the part of commuter carriers, and understandably so, to invest large sums of money for training devices until the FAA adopts standards and performance parameters that define the kinds of training and checking that they can be used for. The manufacturers are faced with a similar problem—the concern of manufacturing training devices without knowing what the market will be.

The Regional Airline Association (RAA), who represent the major commuter carriers, has made a proposal to the FAA concerning the use of simulators and training devices. The FAA has shown an appreciation of the training needs of the commuter carriers and is working very closely with RAA to develop specific standards and training credits that can be satisfied with each training device. When this objective is achieved we will be a lot closer to using training devices to enhance commuter air carrier training.

FAA MAINTENANCE INSPECTIONS

Question 3. Adequate FAA surveillance continues to be a major concern, both with respect to major air carriers as well as commuter airlines. Is it possible that the FAA's erratic inspection and surveillance efforts pose a greater safety problem with respect to commuter airlines?

Answer. The Safety Board has been concerned about the adequacy of FAA surveillance of the commuter air carrier industry for many years. Safety Board accident investigations seem to indicate that the level of FAA surveillance has been less adequate in commuter air carrier operations than in major air carrier operations. However, it would be very difficult, if not impossible, to determine whether this is true for all operations of both the major and commuter carriers.

FAA FOLLOW-UP

Question 4. Your testimony discusses a number of areas in which the Safety Board believes commuter airline safety could be improved. How would you evaluate the FAA's performance in following up on the Safety Board's recommendations with respect to safety recommendations affecting the commuter airline industry?

Answer. The FAA has, for the most part, been responsive to the Safety Board's safety recommendations concerning improvements in commuter air carrier safety. Most recently the FAA has announced intentions to expand the inspector force which is involved in the surveillance of both major and commuter air carrier operations. The FAA has also taken significant steps to improve the training of air car-

rier inspectors—involving both the initial and recurrent training programs. Several years ago the FAA improved and strengthened 14 CFR Part 135 which governs commuter air carrier operations. Also, the FAA has adopted new regulations which provide improved flight and duty time limitations on commuter airline crews. These and other initiatives adopted by the FAA were motivated, at least in part, by safety recommendations forwarded from the Safety Board.

Senator KASSEBAUM. The next witnesses are a panel. Mr. Alan Stephen, vice president, operations, Regional Airline Association; Mr. Curtis Coward—oh, I am sorry. Let's go down the line. Mr. Charles Colgan, president, Colgan Airways Corporation; Mr Curtis Coward, president, Av Air at Lynchburg Municipal Airport, Lynchburg, VA.

It is a pleasure to welcome all three of you. Why don't we go in the order that I just recited?

Mr. Stephen.

STATEMENTS OF ALAN R. STEPHEN, VICE PRESIDENT, OPERATIONS, REGIONAL AIRLINE ASSOCIATION; CURTIS M. COWARD, PRESIDENT, AV AIR; AND CHARLES J. COLGAN, PRESIDENT, COLGAN AIRWAYS CORPORATION

Mr. STEPHEN. Madam Chairman, I would like to suggest, I want to defer to two of my member CEOs and ask Mr. Coward and Mr. Colgan to go first, and then I would like to follow up and then talk about some specifics of the regulatory basis.

Senator KASSEBAUM. All right, that will be fine.

Mr. COWARD. I believe I am set to go first here.

Madam Chairman, we very much appreciate this opportunity. Mr. Stephen, Senator Colgan and myself have submitted comments for the record which we would like included, but I am going to divert from those in my remarks, to try to address the articulated and inferred concerns that we picked up in the first 45 minutes of these hearings.

I think our general impression is that Vice Chairman Goldman's statement is a very good one, principally because it is balanced. We think it is very important in terms of the context, however,to emphasize again that we are talking about the safest form of public transportation available to the public.

It is still true that the greatest risk in a commuter flight is the drive to and from the airport. More people are hurt statistically riding bicycles, walking across the street, driving their cars, than they are in the commuter business.

It also needs to be pointed out that when you are comparing accident rates between the 135 and 121 carriers, included in the 135 statistics are some very difficult operations. As an example, in the State of Alaska, the major carriers serve 14 airports; but Part 135 operators serve over 300, and in environments that are extremely difficult to fly in under any circumstance, regardless of training or pilot turnover or any of the concerns we have heard expressed here today.

So those statistics need to be read very much in context.

In addition, according to statistics that I observed in Aviation Daily, I believe on Monday, in the 12 years reported in those statistics, the average accident rate per 100,000 departures in the aviation industry was about .074. Ms. Goldman has testified this morning that the rate in the commuter industry most recently has been .078, so I think we are talking about common levels of proficiency.

The issues that have been touched on this morning and which appear to be extremely of greatest concern, seem to center around training and the general integrity of the operations under the pressures that Senator Rockefeller has referred to, and they are very real.

Your sense of the economic circumstances is extremely accurate. But really, it comes down to two or three factors that I think are very key. The first is the integrity of the operator. We are under tremendous economic pressure. I think everybody in the airline industry is, and that would include 121 operators as well as 135.

But we are faced on a regular basis with the choice between flying and taking a safety risk. That is something that all of us live with on a 24-hour a day basis. And I can say unequivocally on behalf of the Association and certainly on behalf of my carrier, that there is never any issue in that circumstance. And we take the acrimony and the frustration and the anxiety that is expressed by the frustrated traveler when we have to take a cancellation, but we do not take the risk.

We are aware that there is a general sense of a lower standard in our industry which is wholly inaccurate but very real. We hear references from time to time about well, of course, commuter aircraft don't have radar, they don't have de-icing equipment.

Senator Exon suggested they are flown so much, they are in poor shape. None of that is correct. Our operations are monitored not only by ourselves, but by the FAA, on a very stringent basis. We put about the same number of hours or slightly less than jet aircraft.

On the other hand, it is very true and important to your considerations to know the environment in which we fly. We fly a high level of cycles. The pressure on the aircraft is the takeoff and landing. We will do that five, six, seven times a day, where a jet aircraft may do it only two or three times a day because of the longer comparative stage lengths.

But that spills over to a positive aspect and one that I want to focus on particularly. Your concerns apparently are very much related to pilot training and integrity. It should be pointed out that as you suggested in your question, the numbers of hours is not necessarily related to the competence of the pilot.

As an example, the military, I think, hands over $24 and $28 million pieces of equipment to zero time pilots on a fairly regular basis. It is, at first, the competence and the training of that pilot, regardless of the number of hours. And we will put our training program up against that of anybody, and I would certainly invite you to check that out with the FAA.

We are extremely rigorous, both in selection and training. We have the exact requirements as the majors in terms of 6-month recurrent checks. We are subject to FAA check rides. To answer another question that was asked, yes, they do single engine shutdowns. I don't think they do double-engine shutdowns. But they are regular in their periodic and unannounced check rides of our pilots and participate whenever we are upgrading.

At American Eagle, we are in the throes of adding ten new pieces of equipment right now, and we have had a very intensive program going on to run 110 pilots through a training program for that new piece of equipment.

The FAA has worked very closely with us in providing check rides for pilots upon completion of that program to ensure the maximum integrity of those pilots.

My reference to the cycles is this, though. Our people do more flying in the same amount of time. Our pilots will typically do six, seven, or eight landings and departures in the course of a normal working day, as opposed to two or three at a major. So I would suggest to you that the experience that our people get is more intensive, and therefore the learning curve is more steep.

Secondly, it is typically in the same environment. We don't fly coast to coast; we don't go to Bora Bora or exotic other destinations. We work the same airports every day. And so we build up a tremendous level of experience at those particular fields. Most of us serve anywhere from 10 to 15 cities. We serve 17 airports ourselves, but it is the same 17, always has been and likely always will be, and our people are typically in the same flight lines every day. So their experience is not only more intense in terms of the numbers of operations per day, but also more specific in terms of the location.

Some of the issues that have been touched on this morning are areas of concern. Alan Stephen will talk to the cockpit commonality and the training issues, the simulators.

Senator Rockefeller, I believe the response to your question with respect to the development of simulators is that it is typically done by vendors and certified by the FAA, but not developed by the FAA. I do not believe there is a whole lot of investment by the FAA.

I would make a couple of points, however, as I do in my prepared statement, that I think are extremely important. We share the day to day, hour to hour, segment to segment, trip to trip responsibility for a quality responsible operation. We accept that.

You all, however, have a tremendous impact on the environment in which those operations are carried out, and there are two or three areas where I think your focus could be well directed. The first is that our industry is in a tremendous metamorphosis, and one of the reasons we do not have commonality in equipment is that the equipment has come from a variety of directions. Much of it is used. It was not designed specifically for the environment we are now operating in, the post-deregulation environment.

I think most of you who follow the industry are aware that there is a tremendous need at our level for new equipment, and most of us are either in a position of currently acquiring or anticipating acquiring new equipment that is very costly. And as I said to the Ways and Means Committee in July, to the extent that any tax reform discourages capital formation we are putting a substantial barrier in the face of acquiring new equipment.

You had reference outside to the new equipment Air Midwest is operating, which is new generation, high technology equipment. I think there is a substantial question that that acquisition could have gone forward under any of the revisions to the tax code that I have seen. And capital formation is a very real issue relative to the quality of equipment we will fly.

The second is that, in terms of FAA surveillance, our experience at American Eagle in Lynchburg has been extremely responsible. We could not have a more desirable relationship, very arm's length, very rigorous, and very, very intense. They keep a car parked in our parking lot. They are on us on a regular basis.

I made the statement several times that if I could charge rent and 25 cents for each cup of coffee for these guys, it would change my bottom line dramatically. That is fine. We welcome it. We get insecure when we do not see them regularly.

But I think that system is much improved over the last 18 months. It needs to get better in terms of consistency. That experience needs to be shared coast to coast.

And the last observation I make, or twofold observation, would be this. We are I think consistently befuddled about the use of the aviation trust fund.

Senator KASSEBAUM. You are not the only one.

Mr. COWARD. That money was intended, has been, and continues to be extracted from the riding public for a safer and better environment. It needs to be spent for that purpose, and when it is spent it needs to be more broadly distributed.

I think one observation the regionals would make is that we tend, understandably, to focus the newer technology in the high density airports. They go from CAT 3 to CAT 2 to CAT 1, da-da-da-da-da-da-da-da, and that is fine and very important.

But we need radar at some of these places, a very basic tool. Lynchburg, VA, has gone from 10 flights a day before deregulation to 30 flights a day, but most of them are from commuters and that does not count in terms of determining whether we should have radar.

I would suggest to you the business traveler in my aircraft is entitled to the same protection as a business traveler in a jet aircraft, and he ought to have radar. So I think the way that that money is distributed and the speed with which it gets into the system are entitled to serious focus from this group.

I would now like to defer to Senator Colgan, if I could.

[The statement follows:]

STATEMENT OF CURTIS M. COWARD, PRESIDENT AND CHIEF EXECUTIVE OFFICER, AVAIR, INC.

My name is Curtis M. Coward. I am the President and Chief Executive Officer of AVAir, Inc., which operates American Eagle service in the middle Atlantic market. I am also serving currently as the Vice Chairman of the Regional Airline Association, and I am speaking today on behalf of our Chairman, Mark Morro of Wings West Airlines, and the members of our organization.

The Regional Airline Association is gratified that this committee shares our commitment to public safety. We appreciate this opportunity to report to you on the current conditions in our industry, and to explore with you additional steps that we feel should be taken to improve upon the impressive safety record we have established to date.

As you are aware, travel on our nation's scheduled airline system remains the safest mode of public transportation. Although a limited number of extremely unfortunate recent accidents has understandably created a greater level of concern, the fact remains that the rate of accidents in the airline industry is virtually unchanged over the past twelve years and remains the lowest among competing types of mass transportation.

Regional carriers have contributed to this record of excellence despite record growth in the most recent five year period. In 1979, our carriers initiated over 1.8 million departures, but we experienced only 52 accidents. Of these 52 accidents, 15 involved the loss of 66 persons. In 1984, the most recent full year available, our industry undertook more than 2.7 million departures. Yet we experienced a decline to only 320 accidents, six of which caused the dealth of 41 passengers. I hasten to point out that we are dedicated to eliminating all risk, and the loss of even one life is too many. But it needs to be clear to this committee that we are dealing with the issue of how to make the safe even safer, not how to protect the public from activity that is inherently unsafe.

In that context, however, more needs to be done. Our carriers must and do accept even more stringent government requirements. And the government must do more to create a safer environment. Let me speak to both.

The regional airline industry is undergoing a metamorphosis. The number of carriers is diminishing, and the size of the remaining carriers is growing. In that environment, there has to be an unshakeable commitment to safety from management. Resources must be made available to insure adequate training, parts support and quality control. Cancellations must be endured, despite competitive pressures, whenever there is the slightest doubt about the integrity of the equipment. I can absolutely assure you that in our American Eagle operation, we make that election regularly without hesitation. And I sincerely believe that our member carriers share the same philosophy, as the record attests.

An area of constant focus for regional carriers is in attracting and maintaining competent professionals to operate and maintain our equipment. We are continuously losing key people to jet carriers, and this pressure has been particularly intense during the recent months. Our carriers have responded to this pressure by attempting to create the best possible working environment in which to retain our people, and by putting tremendous emphasis on sound hiring practices and effective initial and recurrent training programs to insure that required new hires continue to meet our standards. In this regard, we need more cooperation from the major carriers in assuring that regional carriers are given sufficient notice of the hiring of personnel so that replacements can be identified and trained. We have initiated conversations with the Air Transport Association on establishing standards of notice, and we hope and expect that, working together, we can create a more orderly flow of talent.

Just as we have the primary responsibility for the safety of our own operations, the federal government bears the burden of creating the safest environment in which to operate. In this area, a number of important contributions should be considered by this committee, and indeed, by all of our elected and appointed officials.

In order to continue to meet our high fiduciary obligation in the area of public safety, we will have a growing need for capital formation. There is a whole new generation of aircraft coming on stream which can substantially enhance the quality and integrity of regional and commuter airline fleets. But these new aircraft are expensive, and current drafts of proposed revisions to the tax code would put the acquisition of these planes beyond the reach of most regionals. You need to be aware that capital formation is inextricably related to the quality of equipment that will be flown on our regional system in the next ten years.

A second area of governmental focus should be in the area of staffing the Air Traffic Control system. While we believe that the FAA has done a remarkable job to

date of returning the system to an operational level since the PATCO strike, we do not believe that that process is complete. There is still a need for more controllers in most of the heavily used areas, and full staffing with well trained operators should be the FAA's highest operational priority.

Another extremely important issue that tends to be overlooked is the distribution of instrument approach hardware. Current programs tend to concentrate this critically important equipment at the major airports, while increasingly congested secondary facilities get nothing. This distribution scheme is an anachronism, and more needs to be done immediately to get radar, ILS and MLS systems to a larger number of locations.

Clearly the wider distribution of expensive navigational aids will cost money, and that leads directly to my last point—the use and misuse of the Aviation Trust Fund. A cynic might well observe that these revenues, which have been extracted from the travelling public for use in improving the system, have become a slush fund in the budget chaos. A more charitable view is that the fund simply lacks direction. Whatever the reason, the money is not getting into the system, where it is so badly needed. I would therefore urge you to protect these funds from misuse, and to insure that they are promptly invested in the system they were intended to help modernize.

I am comfortable pledging to you the continued commitment of regional air carriers to insure the maximum level of integrity in our daily operations. We ask in return that you continue to commit the government to providing the safest possible environment in which to fly. Together we can continue to provide the American public with what they have come to expect and rely upon—the safest public transportation system in the world.

Mr. COLGAN. Good morning, Senator Kassebaum, Senator Rockefeller. I am going to go ahead and read my statement. I think it is on file, but I will go through it anyway.

We operate scheduled air service from the two Washington airports, Dulles and National. We serve the communities of Allentown, PA, Binghampton, and Poughkeepsie, NY, Clarksburg, Morgantown, and Elkins, WV, and Hot Springs, VA.

On November 15 we will affiliate with New York Air and become New York Air Commuter. We will feed New York Air at both Dulles and National. We will continue to serve the cities we presently serve. We will add the cities of Newport News and Charlottesville, VA, on November 15.

It is through the news media that I have heard frequent concerns raised relative to the safety of regional airlines. Reporters often make irresponsible statements, such as commuters do not have radar and do not have de-icing equipment. I do not know of a single airline operating in this area that does not have radar and de-icing equipment.

As far as pilot qualifications are concerned, I believe we have very well qualified pilots. We employ 35. We require captains to have a minimum of 4,000 hours. We require—we may waive this in cases of exceptional ability, although I cannot think of one now, of any case where we have.

We try to hire first officers who have had at least 2,000 hours of solid flying experience. With that type of experience, flying 1,000 hours a year, then we can upgrade them in about 2 years.

It should be kept in mind, as Mr. Coward has said, that regional airlines fly relatively short distances, so the pilots will make five and six takeoffs and landings a day. This increases their proficiency. They make five or six instrument approaches a day sometimes. A pilot flying coast

to coast on a major air carrier may make one takeoff and one landing a day. And the question is which one makes it.

As far as our training is concerned, we have—our director of training is a retired chief inspector with the FAA. He does an excellent job. He mainains all of our training records and he performs all of our flight checks. Our vice president of operations, director of operations, has accumulated 7,000 hours of flying experience. Our chief pilot is a highly experienced pilot who holds a master's degree from American University.

In the past year we have experienced very little turnover in captains. We have lost a few first officers, but I cannot think of except one or two captains that we have lost to the major airlines in the last year.

During the time that Continental went into chapter 11 and some of their pilots quit, we overnight lost four captains and that did create some problems for us. However, we did have first officers who were ready to upgrade. We were able to do that, to get them upgraded and get them into those captains jobs. That is the only time that I can think the situation got critical for us as far as the pilot situation is concerned.

If we cannot upgrade a first officer, if we do not have one who is ready and we need a captain and we have to go outside and hire someone, we try to get someone who has previous military experience, preferably someone who is retired from the military.

That person is generally an older person. He has a pension. He does not need the big salaries that the majors will pay. He is settled. His home is here, his family is here, and he will generally stay with us, he or she. I might add, we have two female captains doing an excellent job. As a matter of fact, two of our most experienced pilots are female.

In the airline in fixed base operation, we employ 18 mechanics. Three have been with us more than 10 years and five have been with us more than 5 years, and the rest have less than 5 years experience. Our director of maintenance has more than 20 years of experience in the airline maintenance business.

There are frequent criticisms that the FAA does not monitor the commuter airlines as closely as they should. I have also heard that the FAA is understaffed. This well may be and probably is.

With 6 operating aircraft in 1985, 6 airplanes. we have had 51 maintenance inspections. Twenty-seven of these were ramp inspections, where the inspector comes down to the airplane and gives the airplane a spot inspection on the ramp while it is waiting to board passengers. They will check the aircraft maintenance log and will give the aircraft a visual inspection.

We have had eight onsite maintenance inspections on our facility, where the inspector comes in and checks the maintenance records and the general maintenance operation. In addition, we have had numerous miscellaneous maintenance inspections, such as our fuel system, at different stations on our system. As far as the operational inspections are concerned, we have had a total of 16, 8 on-site and 8 off-site, that is on the ramp.

We may be more susceptible to inspections than other air carriers because we are located here in the Washington area. I do not know, but it seems to me every time I turn around I see an FAA inspector. I am not complaining about that. I think it is a healthy situation and they are certainly welcome.

I try to tell our people to use them. They have the expertise; use them. Do not ever hide from them, do not run from them. Expose everything and use them as much as you possibly can.

So I think overall, as far as we are concerned they have done a very fine job. One thing that we have done, I think we have developed a safety program and we hired an outside safety consultant who comes in once a week about three or four times a month and will give us a walk-on inspection unannounced, come in, get on a flight and fly it. He may check the maintenance records, he may check operations, he may check the way that we fuel airplanes. But he does an excellent job.

He then gives me a written report of his findings. I then sit down with our staff and go over that report. Any discrepancies he has noted, any problems or any potential problems he has pointed out, we sit down and discuss them and try to nip those problems in the bud.

The regional airline business is a very capital intensive business. It requires a tremendous amount of money to purchase new aircraft. A Beech 1900 today, a 19-passenger pressurized aircraft, will cost $3 million. A 38-passenger pressurized aircraft will cost upwards of $6 million or even more.

I have heard it said that these are mom and pop operations. These are not mom and pop operations. They are very sophisticated operations which have a very high financial risk and require top-notch excellent management. I think that we have an excellent record in the business, and I think that you and the FAA and the general public can be proud of the record that the regional airline industry has. Of course we have accidents. No one wants an accident. It is a terrible then when you have one. But even the best have accidents, unfortunately, and we have obligated both at the private level and the Government sector all we can to eliminate it.

But I think that overall the industry does a very good job.

[The following information was subsequently received for the record:]

QUESTIONS OF SENATOR ROCKEFELLER AND THE ANSWERS

Question 1. During the hearing, you and others focused on the need for improved instrumentation equipment—particularly at smaller airports. Referring to the surpluses which have accumulated in the aviation trust fund, which I understand are now somewhere between $750 million and $3 billion, you state that "whatever the reason, the money is not getting into the system, where it is so badly needed."

What needs to be done to upgrade such systems at these so-called "secondary" airports? How many airports are involved and what would it cost to draw on trust fund revenues for this purpose? Do you have other recommendations for how trust fund revenues could be allocated to improve facilities and equipment in airports served by commuters?

Answer 1. Improved instrument landing facilities at numerous airports would be of great benefit and add to safety. Improvements are badly needed at the Elkins, West Virginia airport. In order for an aircraft to land at Elkins, the ceiling must be at least 1,100 feet and visibility 1½ miles. This is one of the highest weather landing minimums I have seen. During the winter months, our flight completion factor at Elkins is approximately 70 percent, also night take-offs and landings are not permitted at Elkins Randolph Field. Benendum Airport at Clarksburg/Fairmont, does not publish a weather forecast. They do publish their current weather conditions, however, they are not equipped to forecast weather. This would be of assistance at Clarksburg. Clarksburg could then be used as an alternate airport for Morgantown and Elkins. It can not be used as an alternate airport unless weather forecast are available. There are many busy airports which do not have control towers. Manassas, Virginia is a good example. With 260 based aircraft and two parallel runways and a full instrument landing system, there is no control tower. I have seen as many as ten aircraft waiting to take off and ten attempting to land with no air traffic control other than the advisory unicom service.

Question 2. In questioning Mr. Goldman of the National Transportation Safety Board, I inquired about the economics of the commuter airline industry. You and others on the commuter airline panel confirmed my impressions about the highly competitive nature of the business. You also pointed out that the high costs of acquiring aircraft and other capital expenditures leave you little margin—and make the costs of developing and purchasing simulators and other sophisticated training devices very difficult.

What use do your airlines make of the funds provided under the essential air service program, which—as part of the deregulation of the airlines—subsidizes air service to small and medium-sized communities? Can these grants be used in part to underwrite the costs of training and purchasing needed equipment?

Answer 2. Funds received through the Essential Air Service program are used in the same manner as ticket receipt monies are used. They go into the bank account and are disbursed to meet payroll, airplane payments, fuel cost, etc. I believe that the Department of Transportations policy of allowing only a 5% profit when computing these subsidies, is insufficient. If the profit figure can be computed at 10% or 15%, this would increase the amount of subsidy the airline, such as ours would receive for providing Essential Air Service. Our company began service at Elkins, West Virginia on December 3, 1984, as an interim carrier. This service was provided after Wright Airlines went into receivership and discontinued the service. We received a monthly subsidy of approximately $24,000 a month, (assuming that all flights were flown). As we obtained experience on the service and was able to renegotiate our subsidy on a permanent basis, D.O.T. increased the subsidy to approximately $40,000 (assuming that all flights were flown). An increase of nearly $16,000 per month. This increase of subsidy became effective October 1, 1985, therefore, we operated ten months at an approximate loss of $16,000 per month. In my opinion since this service was provided on an interim basis, to replace a carrier who had pulled out very suddenly. We should have been guaranteed that we would not lose money by going into Elkins and serving this community.

Question 3. What factors account for the markedly improved safety record of commuter airlines in the years since airline deregulation? As an operator of a commuter airline, how do you assess the FAA's surveillance practices during this period?

Answer 3. I believe the constant monitoring of our own airline operations is extremely important to our safety record. Our company hires an outside consultant who makes surprise visits to our facilities throughout our system, monitoring ground handling, pre-flighting, maintenance and he also route checks our flight crews. I feel the FAA does a good job of surveilence. As I stated in my testimony, our company has received more than 50 maintenance inspections during the past year by the FAA. Ramp checks as well as on-sight inspection of records and mainte-

nance procedures. In addition, we have received a minimum of 16 operational inspections. This may seem like a rather large number of inspections for an airline which operates a six airplane fleet, however, in my opinion, we could not have too many inspections and I would like to see them increased even further.

Question 4. Has your airline experienced much turnover of pilots or other flight personnel? How do pay levels and flight schedules at your airline compare to the major carriers? Are your employees members of a labor union?

Answer 4. We have not experienced a great turn-over of Pilots, however, we do have difficulty in finding qualified Pilots for our expansion program. When hiring new Pilots, we have them sign an agreement that they must stay with us a minimum of one year or they reimburse us for any training costs incurred during their term of employment. We have lost several First Officers to the major air carriers. I have found that it is a good idea to try to hire Captains who have previous military experience and are retired from the military. They therefore, will have their own retirement income plus their airline salary. Our pay scale is below that of the major air carriers. Our Beech 99 and Beech 1900 Captains average $22,000 per year, First Officers will average $12,000 to $15,000 per year. Ticket prices on a commuter airline generally run higher than on a scheduled air carrier because we do not have as many seats to sell, we can not offer as many special deals and we must try to generate as much revenue from each seat as we possibly can. Our employees are not members of a Labor Union. We had a Union vote seven years ago and the Pilots rejected the Union.

Question 5. Mr. Colgan, could you explain what the recently-announced association of Colgan Airlines with New York Air entails, and whether airline personnel policies are likely to be affected by it?

Answer 5. Our contract with New York Air is one which creates an affiliation between Colgan Airways Corporation and New York Air. Our airline will be trading as New York Air Connection. New York Air has no money invested in our Corporation. Our airplanes will be painted in New York Air colors. All ticketing will be done on New York Air ticket stock, all reservations will be handled by New York Air. We will use New York Air's terminal facilities at Dulles International Airport. Our purpose is to feed New York Air passengers from cities we serve. We are required to disclose to the public, that we are a commuter airline affiliated with New York Air. We do this by indicating on the side of the aircraft that the airplane is operated by Colgan Airways Corporation. All of our ticket jackets contain this notification as well as a designator in the Official Airline Guide. All advertising we do, also discloses that the New York Air Connection is operated by Colgan Airway Corporation. Since becoming affiliated with New York Air, we have noticed an increase in traffic between Clarksburg/Morgantown and Washington and also an increase of traffic between Elkins and Washington.

Senator KASSEBAUM. Thank you very much.

Mr. Stephen.

Mr. STEPHEN. Thank you, Madam Chairman.

I would like to have my statement submitted for the record and just summarize it. It is quite lengthy.

I think it is pretty obvious from the statements that have just been made by these two gentlemen, CEO's, that safety is the highest priority of the regional airline industry. It is the most important commitment to the air traveling public, period.

And in the next few minutes I would like to describe some of the regulatory bases of our industry, FAA surveillance, talk about pilot training. And I think when we come to the end it should be obvious that the improving safety record, this commitment we have in the industry, is not just recent, is not just because of the public attention on our industry; it is a long-term ongoing and purposeful program on our part to improve that safety record.

There is a lot of confusion as to what a commuter airline is. And indeed, the comments I got today deal with the regulatory basis of part 135. That is a bit of a misnomer. We have—our airlines fly both large airplanes and small airplanes. The regulatory dividing line is part 135: 30 seats and below, part 135; 31 seats and above is part 121 regulations.

Those aircraft operations, for example the De Haviland DASH-7 with 50 seats flown by Henson Airlines, those operations are in compliance with every rule of part 121 as any major airline. So indeed, about 40 percent of our industry traffic, what we would call commuter airline traffic, is actually flying under the same rules as the major airlines.

But again, I want to talk about the 135 and the 121, and realize that, again, somehow the concept of small airline means commuter means less safe, means a different regulatory standard. It just is not the case.

Parts 135 and 121 together form a continuous regulation, and what happens is as you increase the size and complexity of the airplane, additional regulatory benchmarks check in. And the result is—and it makes sense. It would be silly, perhaps, to require a crew of 3 and 2 or 3 cabin attendants, which might be required on a 100-seat jet, to be on a 15-seat Beech 99 that Colgan operates.

And what we are trying to do is to make sure that the benchmarks, the regulatory benchmarks, make sense, so that as we go up in size that the airplanes are adequately maintained and adequately flown, and the operational standards are equivalent whether it is 135 or 121.

To begin with, just to hit a few of these, any aircraft with ten seats or larger is flown under a continuous airworthiness maintenance program. That program in 135 is virtually identical word for word with the program in 121. That is about 95 percent of our industry traffic, under the same maintenance programs, meeting the same quality control and recordkeeping and reliability programs.

In rulemaking, the FAA is now near final issuance—and we will be delighted to see it come out; it is something very important to us, is that the FAA will require all commuter transport aircraft, new designs, 10 seats or more, 10 through 19 seats, to meet the same performance standards and nearly the same occupant protection, fire protection standards as part 25 or transport category airplanes. Some of the airplanes we fly right now, for example the Beech Model 1900 and the Fairchild Metro, meet many of these standards already.

On October 1 of this year, the FAA completed rulemaking, with a lot of help from the industry, from ourselves, the pilot unions, major airlines, public interest groups, and a regulatory negotiation, completed rulemaking which will bring the pilot flying duty time regulations in part 135 to virtually identical to 121. The final rule, in fact, is an amalgam.

We have put weekly, monthly, and annual flight hour limitations into 135 that never existed. We also put minimum rest requirements into 121 for the major airlines. Minimum rest existed in 135 in the old rule, but did not exist in the 121 rules.

What I am suggesting is that we have taken the best of 135 and 121 and created a new flight and duty time regulation that is consistent with our scheduling practices, the workload that we find in the air traffic control system.

I am just hitting a few of these regulatory bases. But as we have seen the rules change, and certainly stemming from the 1978 major revision to part 135 rules, as these rules have been changed and made consistent, our safety record has improved. And I would say today that there is no evidence to suggest that these rules in governing our flight operations and maintenance and aircraft airworthiness are deficient or in need of overhaul.

On a case by case basis, we may need to fine tune these rules on the basis of operating experience, and this is not new. This is the way regulations develop over time. For example, about five years ago there was a series of accidents involving weight and balance with nine passenger or less aircraft. We supported FAA action to use actual baggage and passenger weights as opposed to using average weights, like the major airlines operate with.

Further, there was also a series of accidents five years ago involving legal, but minimum, experienced pilots. We supported FAA rulemaking—we said to the FAA, go ahead with the rule without even public comment; we thought it was that important—which imposed the same minimum pilot operating experience—and that is a very legal definition in the FAA FAR's.

The minimum operating experience is the same in 135 as it is in part 121 major airline operations. And the reason we support these kind of changes is that obviously nobody wants to have an accident, and certainly to have a recurring theme of a preventable accident.

As far as the FAA surveillance of our industry, Air Illinois I think triggered, the accident in 1983 triggered, public concern over the safety of small airlines and certainly safety of the commuter airlines. And I think it is a bit unfortunate because we are somehow perceived differently, on a dual standard by the public. When one commuter airline has a problem, the public almost perceives that it is an industrywide operating practice or standard; indeed, if a major airline has a problem, the public says: Aha, that major airline has got a problem, but not everybody else.

And that is not fair. If there is a bad apple out there, we do not want them there, and the FAA and their surveillance program is to make sure that those bad apples do not exist. And I think it is unfortunate, because we have been as an industry—there are many, many operations out there, the vast majority of operations, which are in full compliance with the operating rules and committed to the highest level of safety.

Under Secretary Dole and Admiral Engen, I believe the agency has turned a very important corner in the last 18 months in its attitude toward safety. As never before that agency—and I see that as a former employee of the FAA and someone who works with the agency every day. I have never seen the commitment to safety that exists there as exists there today.

And I think that some of the things that they have initiated have had a very, very important effect on airline safety records. First, the national air transportation inspection, in which every air carrier, commuter and major, was subject to a directed inspection. That was followed up. That was a first level audit. That was followed up, of course, with a secondary audit of those carriers suspected of having rule problems.

Where the FAA found error, they made the carriers clean up their act. And if it turned out that it was a significant error, the FAA was not afraid to levy fines or take certificate action.

And I think it has been very clear from the public statements that we have made that the Regional Airline Association has supported the NATI inspection and these follow-up inspections as well. We have in some cases, however, been concerned that the commuter carriers have been treated to a dual standard here, that in some cases we have had carriers with certificate action, revoked or suspended, for violations no worse than have been recorded against 3 top 10 major airlines in the past 6 months who were only subject to fines.

What we are saying is we need equity in this, and we conveyed that to Administrator Engen, and we share with him the view that it serves no purpose to ground a carrier unless there is a serious question as to the ethics or competency of its management. And we believe the FAA has listened. We have found that FAA enforcement and surveillance is tough and unyielding in its demand for regulatory compliance, as it should be. We also believe the FAA is making a conscious effort to make sure that its treatment of all airlines is equal.

Recently, the FAA announced plans to substantially increase the maintenance and operations inspectors. We think this is a terrific decision. We do not look at inspection, as you have heard, as a bad thing. It is not cops on the beat; it is a quality control function. The better the FAA inspection process, the better overall compliance will be, not only at our airline but every other airline in this country.

The General Accounting Office issued a report, which I know caused this committee a great deal of concern, about the volume and type and the variation of air carrier inspections from FAA office to FAA office. We do not believe that that GAO report necessarily means that there is a substandard level of safety in the system, but we do believe that report underscores the importance of having a sufficient number of and effectively deployed operations and maintenance and avionics inspector work force.

The GAO report also confirms, I might add, that many commuter airlines have been and continue to be subject to the highest standards of air carrier surveillance. In a follow-up report, the General Accounting Office is looking at the issue of whether or not these inspectors are adequately trained to look at commuter airlines. And indeed, the FAA has air carrier inspectors and general aviation inspectors, and some general aviation classified inspectors surveil commuter airlines.

We do not think this is a significant difference, because it really reflects what kind of a training pipeline the inspector went into. But as that inspector is assigned to oversee a carrier, that inspector is given ade-

quate training and has adequate knowledge of the regulations to do the job. And when we fly in a variety of airplanes, ranging from the nine-seat or less Cessna up through a small jet, it is very important that that inspector know the operating standards of the aircraft he is looking at and the rules for that carrier.

And we think the GAO report, when it looks at this qualification standard of the FAA, will find that indeed these inspects of commuter airlines are adequately trained.

We have had through the years some problems of inconsistent FAA interpretation of the FAR's at the local level. The FAA is addressing this. Recently they conducted a series of clinics in which they reviewed the maintenance standards with their maintenance inspectors, and we believe that, hopefully, over time that the inconsistency from office to office will diminish.

It is very important, however, that the FAA establish a national standards office for certifying a new airline, whether it is a 135 carrier or a new entrant jet carrier. It is very important that every airline be put on a consistent regulatory footing when it starts its operation. Today what happens is that you apply to your local office for your initial operating certificate and that local office certifies you on the basis of their interpretation of what the rules mean.

We have urged the FAA to do more in the area of standardization on this issue.

In recent months, the FAA has placed its major emphasis on the surveillance of airlines. I suggest that there is an additional effort that must be looked at very carefully. Indeed, some of our members have reported it to us and I raised it here a month ago when we testified. It is that the airlines, ourselves and the majors, are using contract maintenance more and more, overhauling engines at a shop approved to overhaul an engine.

And we are seeing problems of quality control there that might suggest that these shops need to be looked at more carefully, more adequately surveilled. We believe the FAA must put emphasis on looking not just at the airlines, but at the entire support structure.

The area of commuter airline pilot qualification and training has been I think well covered here, but let me just point out that the rules of 135 and 121 are virtually identical. Air transport-rated pilot is required in our operation. The pilots have to be trained under an approved training program, submitted to the FAA and approved by the FAA.

We have a requirement for instrument and proficiency checks each 6 months, the same as the major airlines. We are required to receive ground and in-flight and emergency training pursuant to that approved program, and we do that for initial, recurrent training, and also for upgrade from first officer to captain.

As well, we receive hazardous material and in-flight security training as appropriate to the operation. And before that pilot may act as pilot-in-command of a commuter flight, he must have not only completed all this training, but received a check ride and also have the operating ex-

perience, which means you go out and fly the actual route structure with a check airman on board to monitor the pilot's performance.

Today we employ about 5,500 full-time pilots, and as a result of the record level of recruiting by the major airlines we have had a lot of attrition, in some cases upwards of 30 percent annually at some carriers. We are very concerned, but there is very little we can do. And in fact, it is a very frustrating thing.

It is not uncommon to have a pilot in our industry take a 50 percent pay cut to leave a job flying for us to go to work for a new entrant jet airline. That is a choice they make. And again, we like to keep the people.

But we do not look at pilot turnover as necessarily a safety issue. It is one of costs, costs of training and costs to qualify. But as long as these operating standards from the FAA make sure that they are adequately qualified and trained, these pilots can be safe. And some of the examples that these gentlemen just gave I think are good evidence of safety.

Our primary deficiency, if there is one in this whole area of training, is that we lack the use of ground-based flight simulation. Unfortunately, we just do not have the option of using flight simulation because no approved equipment exists to do so in this industry.

Training in the airplanes is very costly. The airplane is a lousy training environment in the first place—the noise and the dynamic situation instead of a stable one. You really cannot simulate emergencies at the level that you would like to. For example, engine failure on takeoff. You can not really do an engine failure on takeoff. You might have more training accidents than accidents in actual operations you would avoid.

So what you do is you simulate it. And what we would like to do is have the training devices in this industry similar to what the major airlines have had for the past 20 years.

I point out that pilot error continues to be the most common cause of airline accidents, certainly all across the board in aviation. But rarely, if ever, does a flight crew lack adequate flying skill or proficiency. Rather, the accidents stem from an error in judgment, failure of the flight crew to act perhaps as a team, to manage, what the jargon is, cockpit resources.

And cockpit resource management was an idea that was a human factors engineering concept developed by Dr. Lauber, who has been nominated for the Safety Board, at NASA, and has been employed by most major airlines as LOFT, Line-Oriented Flight Training.

We would like to see LOFT or cockpit resource management in our industry. It employs scenario training. Take your crew, put them in a simulator, train them, watch to make sure that they are responding in the standard way; look for errors in communication or teamwork, and work with the crew members in debriefing to correct what you see as a management skill as opposed to a pilot flying skill.

We do not have cockpit resource management in this industry because we do not have the training devices which we can do it in.

The problem is that the state of the art in simulation and technology has permitted an ever more sophisticated duplication of the aircraft performance. The FAA definition of "simulator" becomes more complex, and as it becomes more complex, so does cost. Between $6 and $8 million would be a minimum cost for a flight simulator in our industry, and that is more than the airplanes we operate cost, so it makes it uncost-beneficial, as it were.

Pooling the use of a simulator between airlines does not work because you might have different—two airlines operating the same equipment might have different configurations, for example, of flight directors. And when you do your training device, you want to do it specifically in the airplane you are flying.

Also, these training programs are standard. Every airline has its own approved training program and they may not be—every airline wants to emphasize what is important to their operations.

Similarly, it does not make sense for us to use a training academy, like a flight safety, because that is an offsite location; flight safety and other places do not have the capability to customize their training programs.

So we are frustrated because we can't pool, we can't afford, and we can't send out for training.

If I were to put the problem just in very simple perspective, there is simply no FAA standard for performance for a training device. Simulators are a very specific regulatory definition. And something is not a simulator, it is a training device, but there is no performance of fidelity standards set, and we have urged FAA to move forward on it, and we have submitted to FAA a recommendation on that subject.

In its most advanced form, of course, air carrier simulation permits 100 percent of all pilot training and qualification proficiency to be performed on the ground and in the device, and indeed at some major airlines using advanced simulators, the first time a pilot may actually have flown an airplane is the time he gets on with the passengers on board and leaves the gate.

We don't need this technology. We can't afford this technology. We would like to use in our industry something less than advanced simulation. In fact, we would like to be able to use the equivalent type of training device today that the major airlines were approved to use in the 1970s. And if we can get this into our training programs, we will be able to have cockpit resource management and move forward on training technology and, I think, make a very major improvement, material improvement in our safety record.

And we have submitted to the FAA, again as I say, a report on that subject following a year-long study done in cooperation with NASA.

Finally, the Regional Airline Association as an industry group has a very active effort to improve safety. We hold annual operations and maintenance workshops for our senior management. We offer our member airlines confidential safety audits. Indeed, we have an expert in

safety on the staff. We also hold meetings on subjects that, as the need arises, which our members need to know more about. For example, just last week, we conducted a cabin safety workshop for commuter airline in-flight service managers.

In the past 2 months, we have held similar sessions on implementing the new flight time rules for pilots and implementing the new FAA standard security program. We work with the FAA daily in the issuance of air worthiness directives and get that information in the hands of our operators so they can be doing the inspection and maintenance called for in these air worthiness directives, even before they receive official FAA notification which can in some cases take 2 or 3 days.

We also undertake special projects like the commuter flight training technology program which led to this recommendation for training devices. And our next special project is to study flight procedures for commuter operations at non-towered airports, a study resulting from a recommendation made to us by the National Transportation Safety Board.

So during the last few minutes, I wanted to raise with you some of the questions that you had raised with us. What is our operating standard? How adequately are we surveilled? What is our maintenance standard, training, turnover? And I wanted also to point out, a cliche it might be, but our safety record is no accident. We have worked very hard to make it happen.

Thank you very much for your interest and attention.

[The statement follows:]

STATEMENT OF ALAN R. STEPHEN, VICE PRESIDENT, OPERATIONS, REGIONAL AIRLINE ASSOCIATION

I am Alan R. Stephen, Vice President of Operations for the Regional Airline Association (RAA). On behalf of our approximately 100 regional and commuter airline members, I appreciate the opportunity to join this panel today to discuss industry operations and maintenance standards, pilot training and FAA surveillance.

This hearing is being held as public concern over airline safety has been heightened by the recent episodic occurrence of tragic airline accidents, here and abroad, and affecting all segments of the airline industry. We believe that these accidents are just a momentary abberation in the long term trend of air safety improvement rather than a precursor of future events.

Safety is the highest priority of the regional airline industry and it continues to be our most important commitment to the air travelling public. The dramatic improvement in commuter airline safety in the past six years is evidence that our commitment is not recent. Over the years, our industry has taken an aggressive role in addressing the underlying causes of our accidents, hopefully, so that they may never be repeated.

FAA REGULATIONS GOVERNING COMMUTER OPERATIONS

The FAA divides its regulation of "commercial" operations into two rules—Part 135, which governs aircraft seating 30 passengers or less, and Part 121, which governs aircraft seating 31 passengers or more. Within Part 135, there are significant regulatory differences between the standards applied to scheduled operations (commuter airlines) and the on-demand charters (air taxis). Similarly, the FAA Part 121 rules distinguish between "domestic", "flag" (international), and "supplemental" (charter) operations of large aircraft.

Because the FAA operating rules make so many distinctions, there is endless confusion over what is a "commuter" airline. Commuter airlines traditionally operate under the rules of Part 135 since they typically fly small aircraft. Commuter airlines also operate large aircraft (31 seats or more), and do so under the same "domestic" rules of Part 121 as the major airlines. In fact, large aircraft operations now account for nearly 40 percent of all commuter passenger traffic.

Through rulemaking over the past eight years, the FAA has ended virtually all significant distinctions between the rules governing commuter and major airlines operations. Part 135 and Part 121 together form a continuous regulation, with additional operations, maintenance, performance, and equipment requirements phasing in as appropriate to increasing aircraft size and complexity. This regulatory scheme makes sense. It would be ludicrous, for example, to require a crew complement of three pilots and two cabin attendants, needed under Part 121 rules for a jet airliner seating 100 passengers, to be required on a commuter airliner seating just 15 passengers.

In Part 135, all aircraft seating 10 or more passengers (95 percent of all industry traffic) must be maintained according to a "continuous airworthiness maintenance program" under rules that are virtually identical, paragraph-by-paragraph, to Part 121 maintenance rules. Most commuters thus comply with the same maintenance procedures, recordkeeping, and aircraft and systems reliability programs as do the major airlines.

In rulemaking now pending final issuance by FAA, and enthusiastically endorsed by our Association, all newly certified light transport aircraft seating 10 to 19 passengers will be required to meet the same performance standards as large air carrier aircraft. Further, these new rules will require levels of mechanical systems reliability, fire protection and occupant safety comparable to the large transport category aircraft. Commuter aircraft such as the Beech 1900 and Fairchild Metro III, certified under SFAR 41 meet many of these requirements already.

Aircraft seating more than 19 passengers operated by commuters under Part 135, such as the Shorts 330, meet all Part 25 transport category airworthiness, maintenance and performance standards applicable to major airline operations.

On October 1st of this year, the FAA finally completed 10 years of rulemaking to revise airline pilot flight time limitations and rest period requirements for Part 135 and Part 121. As a member of the FAA regulatory negotiation committee that hammered out those rules along with representatives of the major airlines, pilot unions and the public interest, I am proud of the result. Finally, the flight time rules for commuter and major airline pilots are virtually the same. Weekly, monthly and yearly flight hour limitations, before now missing in Part 135, have been incorporated to guard against long term fatigue. Minimum daily rest requirements, non-existent in the old major airline rules, have been made a part of the new Part 121 rules.

Further, the flight time and rest rules, basically unchanged since they were developed 50 years ago, have finally been updated to reflect current industry scheduling practices and the air traffic environment and cockpit workload airline pilots encounter today.

As the regulatory basis upon which commuters operate has become comparable to that of the major airlines, so too has our safety record. There is no evidence to suggest that the rules governing commuter flight operations, aircraft maintenance and aircraft airworthiness today are deficient, and thus, in need of overhaul.

On a case-by-case basis, we may need to fine tune these rules because of operational experience. For example, when weight and balance problems involving aircraft seating 9 passengers or less surfaced several years ago, we supported FAA action to require use of "actual" passenger and baggage weights rather than "average" weights as the major airlines are permitted to use. For another example, following several commuter accidents involving legal, but minimum experience pilots, we supported FAA rulemaking which imposed the same minimum pilot "operating experience" in Part 135 as required of pilots flying under Part 121. Commuter airlines are never reluctant to make such changes because they recognize that it serves no purpose to have accidents that are preventable.

COMMUTER AIRLINE SURVEILLANCE BY THE FAA

In the immediate post-deregulation years 1979–1982, the entire air carrier industry was undergoing fundamental, and to a large degree, unanticipated change. Existing carriers, particularly commuters, were rapidly expanding flight operations while there was an enormous demand for initial FAA operating certification by new entrant jet airlines. It was a time when the FAA was being called upon to do more with fewer and fewer operations and maintenance inspectors. Frankly, if it had not been for the combined efforts of the air controllers' strike and a general economic recession, events which put a lid on the rapid pace of airline expansion, the excellent safety record of the period might not have been so good.

In response to this change, the FAA proposed "Regulation by Objective". Under this scheme, air carrier operating and maintenance rules developed over 50 years of flight experience were to be reduced down to their most fundamental safety objectives. Air carriers were to be permitted to write their own compliance manuals from those objectives—with no two airlines meeting the rules in necessarily or exactly the same way. Regulation by Objective was FAA's answer, in part, to trying to do more with less while trying to accommodate a "deregulated" airline industry.

The Regional Airline Association membership unanimously opposed Regulation by Objective. Our safety record had been making a dramatic improvement, in large part due to the 1978 reform of the Part 135 operating rules. We could not understand why the FAA was trying to fix something that wasn't broke! In our view, the only sensible direction to be taken was to restore the budget cuts in FAA's safety inspection programs and to continue to rely on safety regulations that had been working so well for so long.

The Air Illinois commuter accident along with several nonfatal but well-publicized incidents involving major airlines about the time the FAA withdrew Regulation by Objective, triggered national public concern over air safety. Unfortunately, the Air Illinois accident also triggered national public concern over safety of small airlines in particular.

The public perceives our industry and the major airlines by a dual standard that is grossly unfair. When the FAA acts against a commuter airline for violation of the regulations, the public seems to assume that "bad apple" commuter somehow represents the operating standard of the entire industry. That is because commuter airlines are regional and largely anonymous to travel agents and the flying public unlike the major airlines which have national identities. Many potential passengers have concern over booking a seat on an airline of which they have not heard, but know is a "commuter".

Under Department of Transportation Secretary Dole and FAA Administrator Engen, the Agency has turned a corner. Perhaps as never before, safety is being emphasized at all levels of the FAA. A series of very important steps have been taken by them that we believe will substantially correct the past deficiencies in commuter and major airline surveillance and hopefully will fully restore public confidence in the safety of air transportation.

First, the FAA has initiated the National Air Transportation Inspection Program (NATI) in which a specific and directed inspection of all 400 commuter and major air carriers has been conducted. Following that initial national audit phase of NATI, the FAA has been conducting follow-up investigations of carriers suspected of

rule violations. Wherever the FAA has found non-compliance, it has required carriers to make the necessary changes in addition to levying fines or invoking certificate action against operations where corners were knowingly cut. The Regional Airline Association has supported the National Air Transportation Inspection Program and the follow-up investigations without reservation. We cannot continue to have the public image of the commuter airline industry tarnished by substandard operations.

Many in our industry believe, however, that the FAA has conducted its enforcement program by a dual standard. In some instances, commuter carriers have had their operating certificates suspended or revoked for violations of no greater magnitude than have been recently found at three top ten major airlines which were only subject to fines.

We have raised the question of equity with FAA Administrator Engen. We share Administrator Engen's view that "it serves no purpose" to ground a carrier unless there is a serious question as to the ethics or competency of its management. Administrator Engen has listened. We have found FAA surveillance and enforcement to be tough and unyielding in its demand for regulatory compliance, as it should be. But, we also believe that it has been made fair.

Recently, the FAA announced plans to substantially increase the number of air carrier operations and maintenance inspectors. The RAA welcomes this decision. It may seem strange that our industry would support putting more "cops on the beat." However, air carrier surveillance is as much a quality control function as it is safety enforcement. The better the FAA surveillance, the better overall air carrier compliance will be.

The General Accounting Office has released a report that shows great discrepancy between the frequency and type of air carrier inspections being conducted by the FAA. We do not necessarily link this variation with diminished airline safety. We do, however, believe it underscores the importance of having sufficient numbers of, and effectively deployed, operations, maintenance and avionics inspectors. The GAO report also confirms, however, that many commuter airlines have been, and continue to be, subject to the highest standards of FAA air carrier surveillance.

In a followup to its report, General Accounting Office is currently studying how adequately FAA's field inspectors are qualified and trained before being assigned to conduct airline surveillance. Among GAO's concerns is that FAA inspectors overseeing commuter operations are classified as "general aviation" rather than "air carrier" inspectors. This distinction is somewhat artificial, usually reflecting only the initial experience of the job applicant and the training pipeline assigned. Before any FAA inspector is assigned to a commuter airline, he must have the experience and training appropriate to the scope of the operations for which he will be responsible. We believe the GAO report will confirm this.

Over the years, we have had many problems with inconsistent local FAA interpretation of the airline operating rules. We have urged FAA to provide better national policy guidance to its field offices, particularly for initial operating certification whether under Part 135 or Part 121. Our members have encountered many costly and unnecessary delays as a result of local FAA offices being unfamiliar with the certification process, for example in approving manuals and in conducting proving runs. A national FAA standards office must be established to assure that all newly certified air carriers start off on a firm and consistent regulatory footing.

In recent months, the FAA has placed a major emphasis on the inspection of airlines. We believe the FAA must now step-up its surveillance of repair and overhaul stations providing component maintenance to the airline industry. Some RAA member airlines have reported having higher than expected or premature failure of components such as engines overhauled by outside shops. We have urged the FAA to monitor more closely malfunction and defect reports submitted by airlines for problems of quality control at these repair stations. With commuter and major airlines increasingly replying on outside maintenance, the FAA must put priority on inspecting repair stations exhibiting poor component overhaul experience.

COMMUTER AIRLINE PILOT QUALIFICATION AND TRAINING

With the 1978 revision to the Part 135 operating rules, the qualification and training requirements for commuter airline pilots have become substantially similar to those of Part 121. These Part 135 requirements include that commuter pilots-in-command on multi-engine passenger flights must hold a valid Air Transport Pilot certificate and must have satisfactorily completed instrument and flight proficiency checks each 6 months. Commuter airline pilots are required to receive ground, in-flight and emergency training pursuant to approved FAA programs for initial, re-

current and upgrade, as specified by those programs. Commuter pilots also receive hazardous materials and inflight security training as appropriate to the operation under FAA approved programs.

Before any pilot may act as pilot-in-command on a commuter flight, he must have not only have completed all applicable ground and inflight training, he must have also passed a checkride in which he has demonstrated a level of proficiency and knowledge comparable to that required at issuance of his Air Transport Pilot certificate. In addition, before being released to fly the line, a commuter pilot-in-command must also have had operating experience on his carrier's actual route system with a check airman monitoring performance.

U.S. commuter airlines employ about 5,500 full time pilots. Recently, as a result of a record level of recruiting by the major airlines, many commuters have experienced substantial rates of pilot attrition, in some cases exceeding 30 percent annually. We are, of course, very concerned, but there is little we can do to keep them. It is not uncommon to have commuter pilots taking as much as a fifty percent paycut to go to work for a jet airline.

Pilot turnover is not a safety issue. It is one of cost, cost to train and cost to qualify. We believe that the Part 135 rules governing commuter pilot minimum qualifications and training have proven adequate to ensure safety.

The principal deficiency in commuter airline training programs is the lack in use of ground based, flight simulators in place of the airplane for training. Unfortunately, commuters simply do not have the option of using flight simulation because no approved equipment exists with which to do so. Training in the airplane is very costly. It must be done primarily at night since the airplane is typically dedicated to revenue service during the day. Further, an airplane cockpit in flight is a poor training environment. One cannot truly initiate emergencies such as an engine failure on takeoff for safety reasons, so they are simulated in the airplane. Pilot performance cannot be recorded and replayed for debriefing and critique purposes in an airplane as it can using a simulator.

Pilot error continues to be the most common cause of airline accidents. Rarely, if ever, does a flight crew lack adequate flying skill or proficiency. Rather, many accidents seem to stem from an error in judgement or a failure of the flight crew to act as a team—to manage all the cockpit resources available to them.

Cockpit Resources Management (CRM) was developed out of human factors engineering work by NASA. It is being employed at most airlines in such programs as LOFT (Line Oriented Flight Training). CRM employs "scenario" training in which various inflight situations are encountered in flying a simulated trip. Crew communications and coordination in response to specific events can be measured as well as actual flying proficiency and knowledge. Through CRM, airlines can train pilots in teamwork and achieve the highest level of procedural standardization. Many believe CRM is perhaps the single greatest tool for accident prevention developed in the past decade.

Flight simulation and Cockpit Resource Management in Part 135 does not exist because the FAA has failed to address the needs of commuter air carriers in its march down the road of advanced simulation. As the state-of-the-art in technology permits ever more sophisticated duplication of actual aircraft performance and feel in ground based equipment, the FAA definition of "simulator" becomes more precise and the cost of the hardware increases. Today, a typical advanced simulator might cost upwards of $6-8 million, a price greater than the aircraft in commuter service they are to replace.

Pooling the use of a simulator among several carriers or sending flight crews to training academies like Flight Safety does not make sense for commuter airlines. To be a simulator, the device must replicate the cockpit layout exactly. While two airlines might use the same model aircraft use, they may not have the same instrument configuration for example in using different model flight director systems. Because of these differences, a pooled trainer is not practical for them to share. Further, pilot training programs are individually FAA approved for each airline. Training academies are not equipped to offer custom programs and airlines are reluctant to bear the additional expense of travel and per diem in sending flight crews to offsite locations. Pilot training is a full time job at most commuter airlines. Few believe it makes any sense to contract it out on a part time basis.

The problem is that the FAA has no mechanism in place to recognize and give pilot training and proficiency checking credit in a ground based trainer unless it is a simulator. "Simulator" has a very precise regulatory definition. Indeed, training devices that qualified as "simulators" just a few years ago no longer do so despite their successful record.

Some major airlines continue to operate this older generation equipment under grandfather rights but there is no mechanism for other airlines to take advantage of it. Recently, Dallas-based Metro Airlines purchased several Convair 580 (44 seat) turboprops from Frontier Airlines. In addition, Metro has been attempting to purchase Frontier's Convair 580 simulator, a device that has been approved for use in Frontier's pilot training program for many years. Yet because Frontier's Convair 580 training device no longer meets the current regulatory definition of "simulator", the FAA will not grant Metro Airlines the same training and checking credit for its use as had been granted to Frontier.

The most advanced air carrier simulators actually permit 100 percent of all pilot training, qualification and proficiency to be performed on the ground. Indeed, at some major airlines utilizing such equipment, the first time a pilot may actually have flown an airplane for which he has just been qualified is when he departs the gate with revenue passengers on board.

This technology carries a price tag which no commuter airline can afford—nor needs. We would like to be able to use something less than advanced simulation in our pilot training. In fact, we want to be able to use equivalent type of training device today that the major airlines were approved to use in the 1970's. Of course, in using such devices, we do not expect to receive as much FAA training credit with the use of simulators. The airplane would continue to be used in performing maneuvers where our ground training devices would be inappropriate.

The FAA does not define performance standards for training devices as it does simulators. Therefore, there is no mechanism in place by which these devices can be manufactured or evaluated. As a result, simulator manufacturers are reluctant to develop training devices since there are no specifications for performance or fidelity. Commuter airlines are reluctant to commit to spend perhaps $1.0 million for a sophisticated training device without knowing in advance for what use it will be approved.

The Regional Airline Association is very frustrated by this impasse. Two years ago, we completed a Commuter Flight Training Technology project with the cooperation of the National Aeronautics and Space Administration. We developed and submitted to FAA a comprehensive proposal which classifies training devices by their performance capability and which specifies what corresponding pilot training and checking may be substituted by the use of such devices.

In its most sophisticated form, our training devices would be non-motion simulators. They might have visual systems, and would replicate the cockpit of a specific model aircraft in exact detail and have handling and control instrument response capabilities identical to a specific model airplane it duplicates. We believe such devices hold great promise for regional airlines. Even at perhaps $1.0 million per copy, they could be employed at substantial operating savings over using an aircraft to perform training. We remain hopeful the FAA will take action on our proposal soon. Until it does, Cockpit Resource Management will remain a training technology of the future for the commuter airline industry.

INDUSTRY EFFORTS

The Regional Airline Association has an active effort to improve commuter airline safety. We hold annual operations and maintenance workshops. We offer member airlines confidential indepth safety audits. We also hold meetings as subjects arise that are our members need to know more about. For example, last week, we conducted a Cabin Safety Workshop for commuter airline inflight service managers. In the past two months, we have held similar sessions on implementing the new pilot flight time rules and the amended FAA Standard Security Program. The RAA works with the FAA in the issuance of aircraft airworthiness directives by transmitting the contents of ADs to airlines so that they may begin to perform the inspections and maintenance even before they have received official FAA notification, which sometimes can take several days. We also undertake special projects like the Commuter Flight Training Technology effort I just described. Our next special project is a study of flight procedures for commuter operations at non-towered airports, a study resulting from a recommendation made by the NTSB.

During the past few minutes, I have covered many issues related to commuter airline safety. It should be clear that the improving industry safety record is literally no accident. Our members understand their obligation to make commuter air travel as safe as possible. Speaking on behalf of all of them, I can assure you that we will continue to be vigilant in doing so.

Thank you for your interest in the views of the Regional Airline Association. I will be most pleased to answer any questions you may have.

Senator KASSEBAUM. Thank you very much.

First I would like to say, Mr. Colgan, you mentioned it is a record of which the commuter industry can be proud, and I think that is really true. Since deregulation the industry has changed considerably and has had many pressures it has had to meet. Certainly you had three senators here who rely a great deal on commuter service. I don't think there is a State that does not.

I think, though, that with that growth, just as with all aspects of the aviation industry, we have a role to make sure that we question each other and challenge each other to make sure some of the questions can be answered and learn from exchanging some points of view.

I would like to follow up for just a minute on training, and the costs of all of the new state of the art technology, and cockpit resource management and so forth. Many of the airlines are now contracting out a lot of work, are they not, as far as training as well as maintenance? Is this occurring to a large extent in the commuter industry?

Mr. COLGAN. Contracting out for maintenance and training? No, we do all of our own. We do all of our own maintenance, except for the engine overhauls, of course. They go out.

Senator KASSEBAUM. You do all of your own maintenance and training?

Mr. COLGAN. And training. Yes.

Senator KASSEBAUM. You mentioned, I thought, in your comments that you contracted for an inspection, independent inspection.

Mr. COLGAN. Well, we have an outside safety consultant who comes in unannounced three or four times a month. I might also say that we have two compaies that we do extensive flying with that also hire consulant firms that come in and look over our operation as well, which has also been very helpful to us.

One of the problems with simulators, there is no such thing, for example, as a Beech 1900 simulator. There is no such thing as a Beech 99 simulator. There are King Air simulators which are somewhat similar, but they are also very expensive. To send a pilot to flight safety is very expensive. We have checked into it, and I think it was something like $10,000 a year per crew.

So it is a very expensive thing to do, although it is an extremely effective way to train. I would agree with that.

Senator KASSEBAUM. Well, it is expensive. And this is what I was just wondering. Has there been any thought given to several airlines, several of the commuters, together sharing in training procedures?

Mr. Coward.

Mr. COWARD. I think probably one of the great impediments is the fragmentation of our industry. As opposed to 10, 11, 15 majors, there are 200 and some odd commuters that come and go and also the multiplicity of equipment. It would be very difficult to agree on what simulator should be built first.

I would argue strenuously it should be for Metro III. I think Chuck would probably have a different perspective. So I think that the challenge of getting the new technology and training into line service in the

commuter industry is going to be a very difficult one because it does not, on its face, lend itself to that operation.

I think that is Alan's point; rather than the full simulation, the hypertechnology that we are seeing at the majors, a more practical approach is for training aids or training devices which are a substantial improvement over what we have now, but not the high ticket item that the majors can afford on a high ticket piece of equipment.

Senator KASSEBAUM. Well, again, is that something that could be shared, or is this something that would be a cost of each of the airlines?

Mr. COWARD. There are three or four types of equipment that are so common that it may be practical to develop. There may be a broad enough base of users to develop such equipment, and I am very much talking off the top of my head on that, but I would say that the Beech 99 has had universal use; the Metro.

Some of these pieces of equipment are used widely enough that there probably is a user base that would support development of that equipment. That is a guess, but I would think yes.

Mr. STEPHEN. We have looked into this. In the first place, training is a full-time job at any airline. You don't contract it out on a part-time basis. This is very difficult. And because there are differences, even where you have a large number of airplanes, as Mr. Coward has said, of a certain make/model, there are differences in the cockpit layout.

The term "simulator" is a very specific standard. It has to replicate the cockpit exactly of the airplane, or you really can't use it. And I just want to kind of say that we are not talking about something that does not exist. The technology exists for the hardware. We have knowledge of how successful this hardware is because it is the same type of hardware that the major airlines were using in the 1970s.

The problem is that we have no approval basis, fidelity and performance standards set so that a manufacturer can build that piece of equipment and market it, or vice versa, that an airline can go out an say all right, I will buy that and I will know I am going to get the following training and checking credit in my operation.

I will give you an example of one right now that we are concerned about. Metro Airlines, a Houston-based commuter airline, just bought nine Convair 580s from Frontier. They are also trying to buy the Convair 580 simulator that Frontier Airlines has had in operation for many years.

As the term "simulator" has become more precise an FAA definition, the Convair 580 simulator no longer meets the standard of simulator. It is a training device.

Frontier can use it in its operations because it is grandfathered. Because there is no mechanism for training devices to be approved, Metro Airlines can't buy a simulator, put it in its operation and get the same training and checking credit that Frontier has gotten for years and years and years.

And this kind of thing frustrates us. We don't need this high-tech solution. We are not asking that the same very sophisticated training be done and we get all this credit for training that you would get a

simulator. We would like to have something we can afford and use in our airlines and, as I pointed out, also implement in cockpit resource management, which is not just training in proficiency, but it is being able to improve the management of the flight crew and standardize that performance in the cockpit.

You can only do that with CRM and using a simulator.

Senator KASSEBAUM. Mr. Coward, both you and I think Mr. Stephen touched on consistency in maintenance surveillance; is that correct?

Mr. COWARD. Yes. I am speaking now more from the perspective of being vice chairman of the Regional Airline Association. In our periodic gatherings, I have heard reports of very inconsistent application. I must hasten to point out that that was more true 2 and 3 years ago than it is today.

I think the FAA has focused on this as an issue and tried to come up with a common standard. In fairness, the FAA was no more prepared for deregulation than we were, and the application of the regulations and surveillance techniques to an exploding industry has been a difficult process for all of us and it was, I suspect, predictable that we would have inconsistency problems.

But there has been a substantial improvement. Our problem had been and still, to a troubling degree, continues to be that the same piece of equipment would be subject to different operating procedures in different regions. That is, methods of operation in one region would not be satisfactory or approved in another region.

And because again of the proliferation of our kinds of carriers, that problem was exacerbated. But I think that the Administrator has focused on that and we are seeing much more consistent application with respect to operating procedures. That would be my perspective.

Senator KASSEBAUM. Is there more and more contract work for maintenance? You don't see that growing?

Mr. COWARD. No, I don't; not at the commuter level. Now, there are a lot of startup jet carriers I am familiar with that are contracting with majors or some other source for their maintenance. But I think that 99 percent of the commuters do their own maintenance, up to but excluding full overhaul of their engines. In most cases, the engine has to go back to the manufacturer for full overhaul.

Just as Senator Colgan said with his operation, we do everything—sheet metal, engine work, everything on the aircraft up to but excluding full overhaul the engine—and prefer to do it that way. We think we have more control over the situation.

Senator KASSEBAUM. Well, I would think so, and that is why I was curious. So this has not been something that you see increasing?

Mr. COWARD. No, but I think the point Alan made in his statement was that we do contract out for overhaul or for particular major projects, and I think there has been concern with respect to the integrity of some of these licensed shops over which we have no control.

We had an experience in our operation. We formerly operated a piece of equipment that had a Dart-7 engine which has been in use for 35 years, I suspect. We had two successive engines come out of over-

haul from the manufacturer's shop which had serious problems. The wrong third wheel had been inserted, or something along these lines.

We caught the problems and the engine was sent back. But I think that raises the issue of applying the same surveillance to these kinds of vendors as you do to the airline.

Senator KASSEBAUM. Now, are these vendors part of the original company, or have they been chopped out?

Mr. COWARD. In some cases, or some have been licensed to work on somebody else's engine. Outfit B is licensed to work on an engine produced by Outfit A.

Senator KASSEBAUM. Is there any sort of oversight over the work that they do?

Mr. COWARD. Oh, yes; that is all subject to regulation. But again, I think we are talking about areas of focus, not exclusion. I think we see that certain of the engine overhaul shops and support activities need to have the same kind of surveillance as the airlines are getting.

Senator KASSEBAUM. I have just two questions. One on the aviation trust fund. I certainly share your frustration and worry, as a matter of fact, that maybe the only thing left in the budget that isn't set off limits is the aviation trust fund. And we may have to—the House has attempted to do that and there are times that certainly I think maybe the Senate should look to this as a remedy as well.

But again I think what we are seeing with all of our budget concerns is that there is a great uncertainty about the level of funding we can count on from the aviation trust fund. Those of us who agreed to an increase in taxes for the trust fund feel very strongly that the fund must be utilized to the full extent that we agreed to. If not, I know that there are those of us who feel that the tax should be reduced.

Just one other question, and it concerns the financial well-being of commuter airlines. Does this reflect on commuter airline safety in general, and is this something that the FAA should take into consideration when it monitors commuter carriers?

Mr. COWARD. I think that gets back maybe to my first point, and that is the integrity of the operator. If you are having substantial financial difficulties, obviously you are under tremendous pressure to cut costs. I would say, though, that the record would indicate that in a vast preponderance of cases, most operators have chosen either to stop operating or consolidate or merge or do something to solve their economic problem short of cutting corners on operations.

In our own company we have two rules. The first is the family rule. If you would not put the family, your own family in the aircraft, it doesn't go. And the second is a philosophy that if we fail as an economic entity, that will be very sad, but we will all find something else to do. If we injure somebody because of sloppiness or negligence, that is something none of us would ever recover from. And I think that philosophy is pretty characteristic of our industry.

Mr. COLGAN. I think that as a response to the question, I believe rather than compromise safety, maintenance or training, I think I would rather shut down. But I am not so sure that is true throughout the industry.

We bought a Beech 99, used, in September from another airline, and it took us two months to get that airplane in air-worthy condition. It was in deplorable shape. Now, the airline that we bought it from had gone out of business. As a matter of fact, the FAA shut them down, and I can understand why.

But the airplane, I think, is in good shape now but it certainly was in very bad condition when we got it.

On the question of consistency which you mentioned, I would like to say our company presently—we have been operating Beech 99s since 1971. Our overhaul times on our engines right now are 6,500 hours, 6,500 hours required to overhaul. We can get that extended by an additional 500 hours if the overhaul is clean, if it is a good clean overhaul and the engine is in good shape.

I know a number, at least—well, I say a number—I say at least two airlines who have come into business after we did, who almost immediately went on condition as far as the engines were concerned, engine overhauls. In other words, they are overhauled when conditions dictated they should be overhauled. And some of those engine times can get up to 10 or 12,000 hours between overhauls.

Now, there are components within the engine that must be changed. But I think someone who has been in the business as long as we—and we are still at 6,500 hours—I really complain about it. I don't think that there is consistency with other airlines who came in the business after we can came in are on condition on their overhauls.

Senator KASSEBAUM. And that is the FAA's determination?

Mr. COLGAN. Yes. I think the regions, it seems to me, have different standards, quite frankly. And I think that the region I am in is pretty tough. I think this is a pretty tough region and I have told a local FAA office that, and they agree. I think they are pretty tough.

And as far as other airlines being able to go on condition when we are still on hard time, what is called hard time, seems to me to be some inconsistency there.

Senator KASSEBAUM. Senator Exon.

Senator EXON. Thank you, Madam Chairman.

A couple of quick questions, gentlemen. You heard the other series of questions that we had with regard to pilot's, training. I recognize that for the most part, 60 percent or maybe 70 percent of the commuter fleet can't be checked out on simulators.

Just tell me briefly, what is the training of the pilots generally in the commuters as far as—how do you make up for the fact that you don't have simulators?

Mr. COLGAN. Flying airplanes for training is very expensive, too. What we do, on a new hire, a newly-hired first officer or a first officer who is going to be upgraded, we give them 1 week of ground school. They get 1 week. We start Monday and we finish it up on Friday.

The following week we will begin the flight training, and we give them training sufficient for that pilot to be proficient. If the pilot cannot reach a proficiency level after 5 or 6 hours, he is terminated or she is terminated, whichever the case may be.

In most cases, the first officers can make it. Then, of course, they have several years to fly with us before they are going to be upgraded. And by that time, we have an opportunity to observe the pilot. Every 6 months they get a proficiency check and they also get ground school every 6 months.

Senator EXON. Wait a minute. Every 6 months a proficiency check; is that right?

Mr. COLGAN. That is correct.

Senator EXON. What does that proficiency check entail? Is that taking up aircraft that a commuter is flying, and going through most of the procedures that they had to go through when they passed their original pilot's license? Is that correct?

Mr. COLGAN. That is right. That is correct. A good proficiency check, a Captain's check—you mentioned shutting down an engine a while ago—is to cut the engine just as he pulls up the landing gear, cut one engine, pull it back, and he does a single engine go-around. He climbs out and makes a single engine approach.

Yes. The 6-month proficiency check is a genuine flight check.

Senator EXON. Well, I think that the safety of the commuter airlines, the drastic improvements that you have had are just excellent, and I congratulate you on it.

Again, we should not rest on our laurels, but I think we are making significant progress. And it never bothers me to fly in lighter aircraft. In fact, I am not a pilot, but I have done an awful lot of flying, and my experience has been that if I had to come down and land on a plowed field or an interstate highway, I may feel a little safer coming down in a small aircraft than I would be with the bigger ones.

Let me ask just one last question. How are you people in the commuter airline industry generally getting along with the FAA? I ask the question particularly with respect to controllers. In other words, for a large portion of your flights, I assume that you are flying out of a comparable less busy airport to a major terminal which would be O'Hare or others like it.

Do you have any complaints whatsoever with regard to the attention that you as commuter operators are given by the air traffic controllers, or are you treated equally?

Mr. COLGAN. I think we are treated equally as far as the larger carriers are concerned. If we have a delay, they have a delay. So I think we are treated equally.

Mr. COWARD. I would say the same thing. I think there may have been a time when there was some distinction, but that has certainly not been the case in the last three or four years.

We fly in a very congested environment. We fly in the Middle Atlantic States, in the New York Corridor and so forth. And I cannot attest to any distinction.

Your point, however, touches on a critical one that I did not mention from my prepared remarks, and that is staffing levels. We are not there yet. I made the observation in my remarks that the performance of the FAA in getting us back to operational level, I think, is going to go

down as one of the outstanding governmental efforts under a crisis situation.

But the process is not complete. We do need more controllers. There is no question about it. And we are seeing congestion. We are seeing ATC delays, particularly in these congested areas that I think require that that process continue. I saw statistics again this week that indicate we are several hundred short of the levels that were preordained for this point in time. I think there is a good argument the levels were low to begin with, and if we are below those, I would say that that is an area that continues to need attention.

Senator EXON. Everyone who comes to testify before this Committee says what a great job the FAA has done, and they are just delighted with the progress that has been made and the leadership and the free enterprise system and the fact that we showed those air traffic controllers, by God, that they were not going to run things.

I still have a gut feeling that we are not up to speed yet. You have just said that. Is there any criticism whatsoever of the FAA? Dare you criticize the FAA for not getting up to speed faster than they have?

Mr. COWARD. I think I just did.

Senator EXON. You did not do it quite as bluntly as I would like.

Mr. COWARD. I suspect we were talking to sophisticated ears. I don't make any value judgments about how the problem arose. I am only speaking about the reaction to the problem once they confronted it, and I would say that they did an excellent job getting us through a really unbelievable situation. You take this system, and take the controllers out of it with as much dependence as there is.

Senator EXON. Not without risk to the flying public, and I think the flying public had better understand that it has not been without risk. I am not arguing for or against the controllers. I am arguing against the euphoria built up that there has been no risk to the flying public. I am suggesting that there has been high risk, and we are fortunate indeed.

Mr. COWARD. Well, I am not going to argue how many angels are on the head of a pin, but I will say from where we are today we are not complete, and I think our people would testify as a group that we need more, not only more controllers, but there is another use of the aviation trust fund. That equipment needs to be upgraded. Most of those computers are 10, 15 years old, and it is time to improve the equipment and get us better use of the air space.

Senator EXON. Mr. Colgan and Mr. Stephen, do you concur with the statement just made by Mr. Coward?

Mr. COLGAN. I think he said it very well, Senator. Initially I think when the controller strike initially happened, we had some cancellations. I think the industry did. But after that I thought it went very smooth, and I have no complaints about it.

Senator EXON. Mr. Stephen?

Mr. STEPHEN. I lost three roommates that were—of mine in college who were air traffic controllers, and they all struck for different reasons, and it was a very painful time for me personally. They were my friends and colleagues. I was with this association and lived with the aftermath

of the strike. I cannot tell you how difficult a process it was for us as an industry.

I can say the following, that the FAA kept the airplanes on the ground, they kept the lid on traffic. It meant delays and disconnections. I was co-chair for the Air Transport Association of 8 days of depeaking schedules last year. I have lived through the formation of scheduling committees for our industry, and indeed these gentlemen have participated in these scheduling committees.

I cannot tell you what a difficult time it has been, but it served no purpose for us to criticize the FAA. What served our purpose is to get the system back as fast as possible, i.e., qualified, trained controllers, and I am not in a position to judge whether we should rehire some of the old controllers. I mean, all of us have personal views on that obviously.

But the object is to get on with the program, and we as an association will do whatever is deemed necessary to maintain safety in the air traffic control system. Just as Mr. Coward has said, we have got to have more controllers out there. They have got to be well qualified and well trained, and we as an industry cannot put the pressure on them to overdo it, to put too much traffic in the air, and we will live with constraints, albeit very painful.

Senator EXON. As experts in this field, do you concur with testimony that we heard at a previous hearing that pre-strike, the controllers were on the radar screens 4 hours, with 4 four hours off, and now they are on 6 and off 2.

In your opinion, was 4 and 4 the proper workload, or does 6 and 2 provide an adequate margin of safety?

Mr. COWARD. I do not feel qualified to respond to that. I was not active in the industry prior to that time. And I do not think—without working in that environment, I cannot share an opinion. Obviously, the less you work, the fresher you are. But I think our experience, what I can testify to is that we believe the system as it is operating today is safe. We believe, just as our industry is in general, it can be made safer, and just as you are concerned about us improving our performance, we suggest that performance can continue to improve.

Mr. COLGAN. Senator, again, I do not think I am qualified either to say whether the 6 and 2 or 4 and 4 are better. Four and 4 certainly sounds better. I will say that. But in Manassas, VA, we have an airport that has dual runways and no control tower. There are 260 airplanes based at that airport.

I think that is a rather hazardous condition. And I think one of the reasons that we do not have a control tower is the shortage of controllers. Before we can have a tower, we must have controllers, so I think that is an example of where the shortage of controllers apparently has something to do with that airport not having a control tower.

Shooting an instrument approach into that airport, especially when the ceiling is probably, say, 2,000 feet and four miles visibility, legally, it is VFR, but one of our airplanes coming in there with an instrument approach, it can contain a hazardous condition without a control tower on that airport.

Senator EXON. Mr. Stephen, do you care to add anything?

Mr. STEPHEN. I am not in a position to evaluate the staffing or manpower other than to point out that the FAA has got a set of standards, and there have been a lot of people looked at it, and I hope those standards are more than adequate.

Senator EXON. Gentlemen, thank you, and thank you, Madam Chairwoman. I would just say that I would hope that somehow, somewhere, some place we could get some expert testimony on this matter. It may not be critical at all, but it seems to me that if controllers traditionally had 4 hours on their terminals, and 4 hours off, at least as one who has some responsibility in this area but does not have the expertise, I wish we could have some expert testimony on what is reasonable and safe. It might be that 6 and 2 is fine, and maybe we were not getting enough out of the controllers, but I do know and suspect that they work under considerable stress. Thank you, Madam Chairwoman.

Senator KASSEBAUM. Thank you, Senator Exon.

Senator Rockefeller would like to submit some questions for the record. He had to leave.

Senator KASSEBAUM. Thank you very much. We appreciate your testimony.

Our next witness is Mr. Anthony Broderick, Associate Administrator for Aviation Standards, Federal Aviation Administration. Welcome, Mr. Broderick, and you have the opportunity now to answer all of the questions that have been raised.

STATEMENT OF ANTHONY BRODERICK, ASSOCIATE ADMINISTRATOR OF AVIATION STANDARDS, FEDERAL AVIATION ADMINISTRATION; ACCOMPANIED BY LEO WESTON, MAINTENANCE DIVISION, OFFICE OF FLIGHT STANDARDS; AND DAVE HARRINGTON, AIR TRANSPORTATION DIVISION, OFFICE OF FLIGHT STANDARDS

Mr. BRODERICK. We will try to.

Madam Chairman and members of the subcommittee, I appreciate the opportunity to appear before the subcommittee today to discuss commuter airline safety with you. Accompanying me are Leo Weston from our Maintenance Division and Dave Harrington of our Air Transportation Division, both in the Office of Flight Standards.

In my view, the evolution of the commuter airline industry is truly one of the success stories in American aviation. Before discussing the point in greater detail, though, I would like to set out what the FAA defines as a commuter air carrier.

We consider a commuter air carrier to be an operator who conducts scheduled passenger-carrying operations of at least 5 round trips per week between 2 or more points using aircraft with a maximum seating capacity of 30 seats or less and possessing a maximum payload capacity of 7,500 pounds or less.

They operate under regulations contained in Part 135 of the Federal Aviation Regulations. In the matter of a few short years, the Part 135 commuter airlines have made great strides in safely meeting the demands placed on them as a key element of our air transportation system. This year, in terms of the general accident rate, the commuters are experiencing the safest year in their history.

With your permission, I have a few charts here to help illustrate this point. The first chart shows the impressive growth commuter airlines have enjoyed in the past few years. This year we expect them to fly nearly 1.8 million hours, serving nearly 600 American cities and claiming nearly 83,000 people on some 7,500 daily flights.

The second chart shows historical accident data. Not too long ago, just before deregulation, we experienced a high of 61 accidents in 1978. Since then, if you remember the last chart, the flying hours have increased while, as this chart shows, accidents have been reduced substantially. Accounting for both of these gives us an accident rate shown in the last chart. Preliminary data shows that through the end of September, the commuters have experienced 15 accidents, for an accident rate of 1.14 accidents per 100,000 flight hours.

That contrasts with a rate in 1978 of 4.68 accidents per 100,000 hours flown, and is roughly the same as the 1983 rate. Since the Airline Deregulation Act, the trend in accident rates for commuters has been steadily downward. I think it is also important to note that these improvements occurred over a time in which the industry experienced substantial turnover in terms of new entrants and significant growth both in hours flown and passengers carried.

Today, commuters serve nearly 600 cities, which is roughly a 27 percent increase over cities served before 1978, and from 1977 through 1984, commuter passenger enplanements grew about 16 percent. Each day there are an estimated 7,500 flights, as I said, with about 83,000 emplanements. I believe the significant improvements in commuter safety are primarily attributable to two key factors.

The first involves the regulatory environment in which the commuters operate. Let me put that in perspective. Before the advent of airline economic deregulation, the safety standards governing commuter airlines, Part 135 of the Federal Aviation Regulations, varied in substantial respects from the Part 121 regulations governing the larger airlines.

Recognizing, however, that in a deregulated environment there would be substantially greater reliance on commuter travel by the traveling public, the FAA determined that a significant upgrading in the safety regulations for commuters was necessary. Those upgraded Part 135 requirements promulgated in 1978 brought the commuter requirements much more into line with the overall safety requirements for Part 121 operators.

As an adjunct to that effort to increase the safety regulations for commuters, each commuter operator was recertified by the FAA to assure that it complied in all respects with the upgraded safety requirements. That was a massive undertaking by the agency, but one that was necessary to assure that this key segment of the industry was in fact deliver-

ing the high level of safety which the traveling public expects and deserves.

In addition to FAA's efforts to improve the regulatory environment in which the commuters operated, another key factor came into play in terms of fostering substantially improved safety levels. That involved the general attitude of the industry itself. Administrator Engen often indicates that safety is a shared responsibility.

The approach taken by the commuter industry towards shouldering its safety responsibilities makes that point well. Over time, representatives of the commuter industry have worked closely with us to foster a safer environment. Early on there seemed to be a self-recognition that for this segment of industry to meet public expectations, there was a need for a cooperative relationship between the industry and the FAA to promote safe practices. They also work within the industry on a variety of educational programs designed to improve safety practices.

Often times we have had the support of the industry as we have pressed for more stringent safety requirements. Moreover, many operators have sought out our help and welcome the opportunity to work with us on areas of shared concern. Certainly there have been instances where enforcement actions have been necessary against individual operators for safety violations, and when necessary, we have taken significant actions against operators who have evidenced a disregard for safety, but on balance we have found the industry overall to be receptive to safety improvements, and their general saftey record reflects that positive disposition.

Clearly, as long as there are any accidents, we cannot be content with the safety record we have achieved. Therefore our efforts to oversee the industry will continue with a view toward making whatever further changes will improve safety. With that in mind, one area in which we and industry have been taking a hard look, and which I know is of significant interest to the Part 135 commuters, involves the integration of simulators and training devices into commuter training and flight checking programs, as has already been discussed.

We have recently completed an exhaustive analysis of this area, and are working with the commuter industry now to expedite the greater use of these devices among the commuters. At this point our efforts are directed toward aircraft of 30 seats or less, but will subsequently be expanded to larger Part 121 airline aircraft.

We believe that the use of simulators and training devices can go far toward increasing the skill levels of pilots in any way that is cost effective for industry. For example, pilots can perform emergency maneuvers in simulators and training devices that would be far too risky to practice in actual aircraft as you have discussed, and they can do so more cheaply in this equipment than in an aircraft.

By improving the quality of training, simulators and training devices may prove useful in bolstering the skills of less experienced pilots. Given the current cost of flight time, we may see fewer and lower time pilots available for airline hiring in the future. If this turns out to be the case, the availability of simulators and training devices may be an

important factor in helping to balance the relatively lower pilot experience levels.

In closing, Madam Chairman, I would again like to express my conviction that the overall industry approach toward shouldering its safety burdens in a responsible manner and toward working cooperatively with the FAA to advance the safety of the industry have been key contributors to the substantial improvements we have seen in commuter safety.

You may be assured that we will continue working with the commuters to identify additional safety improvements that might be feasible.

That completes my prepared statement. We would be pleased to answer any questions you may have.

Senator KASSEBAUM. Thank you, Mr. Broderick. One I would like to ask concerns my understanding of a comment that Mr. Colgan made earlier in his testimony regarding overhaul maintenance. Now, I know the FAA requires an overhaul after a certain number of hours. I think he used the term, that there could be different conditions imposed, which meant some change evidently in the number of hours that would be required.

When do FAA regulations require total overhaul?

Mr. BRODERICK. Broadly speaking, the FAA does not have hard and fast requirements for commuter airline maintenance. Rather, we require the commuter airline establish a maintenance program, submit it to the FAA, and then receive our detailed technical review and approval.

As you know, there are many ways to maintain an aircraft, and many different routes that can be chosen depending on the kind of investment you have, the kind of facilities your company has, and whether or not you want to do, for example, some or a lot or less work on contract. There are differences. Some of those differences amount to, for example, maintaining hard times, as Mr. Colgan indicated, versus using an on condition maintenance program which may require more complex day to day maintenance than the hard time program.

The important point is that while for economic and other reasons there are differences that are at a fairly detailed technical level in these maintenance programs, the end result must be the same, and that is an FAA-approved safe maintenance program.

Senator KASSEBAUM. But you heard his comments, and his belief that new entrants had been subjected to less restrictive requirements as far as overhaul hours required. Does this mean that you determine in the submission of the new entrants plan that they have a type of equipment that wouldn't require the same hours prior to overhaul that Mr. Colgan's——

Mr. BRODERICK. What I think Mr. Colgan was referring to is something we have been working very hard on, standardization of application of existing maintenance regulations among the various field offices throughout the country. We have just recently completed, in conjunction with the Regional Airline Association, a series of field seminars with our people and with airline people. We gave some 600 people essentially training in standardized maintenance programs.

I agree with Mr. Colgan that our standardization can in fact be improved. We have focused, as you heard earlier this morning, a lot of attention on increasing standardization in the FAA, both in terms of certification, that is, new maintenance programs, and in surveillance, that is, making sure that maintenance programs are followed.

Senator KASSEBAUM. How about the comments regarding when it does go in for an overhaul and goes to a vendor, the consistency of control over these vendors?

Mr. BRODERICK. The national air transportation inspection that was referred to earlier, some called it the white glove inspection, showed one of a number of areas that needed attention, was in fact contract maintenance, this kind of overhaul. We have followed that up with a general aviation safety audit which is beginning to show some of the same things.

As a result, we have initiated and will soon implement a special emphasis program throughout the nation on repair station improvements in standardization as it applies to contract maintenance. It is a problem that we recognize as clearly the industry does, and we need to correct it.

Senator KASSEBAUM. In the previous panel of witnesses the question of air traffic controllers came up. I would be interested in your views. This was explored in our earlier hearing on the air traffic control problems, whether it was a question of attitude at the work place or the number of controllers.

Do you have any comments to make on the previous panel's statement that there was still a shortage, that we are still below the levels that had been projected? I know that the FAA shares many of our concerns about the experienced controllers who in large number will be reaching retirement age. Any thoughts in answer to that?

Mr. BRODERICK. Madam Chairman, as you know, the Associate Administrator for air traffic would be better qualified to answer that question, but let me just say that——

Senator KASSEBAUM. But from the safety standpoint——

Mr. BRODERICK. From an aviation standards viewpoint, we worry about the flying side of the business, and clearly safety is intimately involved in air traffic control. Traffic is up over last year. In fact, it is setting records. Every week goes by, and we see new records set at various towers and centers throughout the country. I think systemwide I see numbers frequently of 106, 107, or 108 percent of what we were seeing before the strike. Delays in the system are down, and from a safety viewpoint the thing that we particularly in aviation standards like is that when delays occur, those delays are taken for the vast majority of times on the ground, and not in these holding patterns that used to occur very frequently, and developed stacks.

Controllers are being hired at an increasing rate. You have heard the statements recently to that effect. They are being trained and put in place where they are needed as soon as we possibly can. I think things from the records' viewpoint of safety clearly speak for themselves. Air traffic is up, and we are doing it safely. Perhaps not as quickly in terms

of the recovery as many would have liked, but safety had to be and will remain the top priority.

Senator KASSEBAUM. What are your thoughts in response to the NTSB's belief that a cockpit data recorder as well as the voice recorder should be part of the equipment required for a 135 operation?

Mr. BRODERICK. I would like to see cockpit voice recorders and flight data recorders in all aircraft. As the NTSB has indicated, though, and as was testified this morning, we have to recognize that cockpit voice recorder and flight data recorder equipment has to be commensurate with the size, the design, the complexity and cost of the equipment in which it is being installed.

Before we issued our notice of proposed rulemaking, which was spoken about earlier, we conducted an extensive——

Senator KASSEBAUM. For the voice recorder?

Mr. BRODERICK. For the voice recorder, right. We conducted an extensive analysis of all of these facets, looking at all sizes of aircraft and all options that were really conceivable, everything from do nothing to literally hundreds of millions of dollars worth of costs. We found that the best that we could justify was what we in fact proposed, which ends up being an estimated cost to the industry of $40 million, I think, when you include the 121 and the 135 requirements.

Clearly it would be nice to have people voluntarily equipped with more. We would like to encourage and continue to work with SAE and others to drive the costs down. When we see a cost that is reasonable for the recorders, then we will, of course, once again look at equipping them, the aircraft, with more sophisticated equipment, as our rule does for the larger airplanes. It requires a retrofit of the larger airplanes with more sophisticated equipment, which has been recently made available.

Senator KASSEBAUM. So is this an ongoing effort to equip all aircraft with both voice and data recorder?

Mr. BRODERICK. Yes, ma'am. I think what we need to do in all these cases is, rather than waiting for the perfect, let's take the good now and take one more step for safety, and then take another step, and we can develop either the technology or the benefit cost arguments that go with it.

Senator KASSEBAUM. I would like to ask you if you could tell me exactly what type of records that are kept by the airlines regarding pilot training, the amount and the type of training. Is this something that is required by FAA? And if it is not, should it be?

Mr. BRODERICK. We do require a training program that is approved by the FAA again for each individual carrier, and depending on their facilities and equipment and whether they do or do not have simulators, it would be different from carrier to carrier.

What we require is that records be kept in sufficient detail to show complete compliance with the requirements that we have laid on them. What we have seen is that the detail of those beyond showing that, for example, there was one hour of flight training given, the detail of those records, unfortunately, varies from carrier to carrier. Within literally the next few weeks we hope to correct that. It is something that came up in

looking through some records for the Dallas accident, as was mentioned earlier.

When we found that there was some nonuniformity again from carrier to carrier, a lack of standardization, I think it is a relatively easily corrected deficiency, but right now, at the detail of, for example, did a particular pilot fly a particular wing sheer scenario in a simulator on a day that he was given training? That may or may not be in the records. All we require is that they got simulator training, and that it be recorded there.

Senator KASSEBAUM. And that is a record that is kept at the airline and with FAA?

Mr. BRODERICK. It is actually required by the FAA to be kept at the airline and ready for our inspection at any time and, of course, the board's inspection at any time, too.

Senator KASSEBAUM. I see. I would just ask your thoughts on the question I asked earlier about the financial condition of a commuter. Is this something that you feel should enter into your focus of more closely monitoring of the maintenance and training conditions of that airline?

Mr. BRODERICK. It must, and it does. By regulation, internal regulation in the FAA, we require our inspectors to continuously monitor the financial condition as part of their just looking at an airline. Now, it is not a detailed balance sheet kind of checking, but it is a general awareness of the financial status of the company, which is quite well known to people who are involved in that kind of detailed inspection of their records.

Senator KASSEBAUM. When there is a problem, how closely do your inspectors work with that airline to try to assist them to make changes? Is this something that they assist them with, or is it pretty much something that is laid out, that this has to be done, and they come back in and certify whether it has been done or not?

Mr. BRODERICK. I think candidly that varies from situation to situation. What we do is first make sure that the next operation, whatever and wherever it is, is going to be a safe one, and as long as we are convinced of that, then we make ourselves available within reason to work with the carrier and develop programs which will bring them into compliance with whatever rule or regulation is under discussion.

We have to, of course, avoid a situation where effectively we are doing the work that they should be doing, but we work very closely with them.

Senator KASSEBAUM. There seems to be a developing trend toward the major carriers purchasing or contracting with the commuters. And under that umbrella of a major do you see some changes as far as perhaps how the FAA would follow their own inspection of the commuter operation? Is the monitoring that you do of an independent commuter going to change with that relationship?

Mr. BRODERICK. New things are happening every day in this business, but for the most part the kinds of commuter agreements that you hear about are arm's length marketing arrangements. They do not have anything to do with operation or control or maintenance or ownership.

Once in a while something will evolve that involves ownership. For example, Henson and Piedmont. But again you can have that kind of a situation where a holding company has two independent airlines, as I believe is the case there. The same thing is true, I guess, in the Frontier-People Express arrangement.

So you can have all sorts of different arrangements, but for the most part the kinds of commuter transfer arrangements that you are talking about are not involved with the safety aspects of the business or the operation or control aspects of the business which would concern us.

Senator KASSEBAUM. In the case of Frontier and People Express, it was mentioned earlier again in testimony about some of the equipment which had been grandfathered for Frontier in the simulator. Was that not accurate? But which, when People's Express acquired it, would not be? And it really makes you wonder about what type of equipment Frontier might have had because of it being grandfathered.

Mr. BRODERICK. Oh, absolutely. Let me explain what that situation is. Back some 5 years ago, when we had a major new program called advanced simulation that we put forth in the regulations that permitted the use of the simulators and set standards and a national simulator evaluation team for certification of the simulators. There were a number of airlines that had invested considerable sums of money in the early and mid-seventies in simulators that were no longer simulators, as Alan Stephen mentioned. They now became things that we now call training devices. They do not meet our new high technology kinds of standards.

What we did is to be reasonable about things. We said, okay, you folks that have those—that equipment, if it meets our basic standards and continues to serve a useful function, we will allow you to continue training your people, but you cannot sell that to somebody else and perpetuate that technology. We in fact want to take a step forward in new technology and in improved devices. So we are trying to be reasonable and allow them an orderly phase-out without an economic dislocation, but we did not want to proliferate those or continue their life beyond what was reasonable, so that is why that occurred.

Senator KASSEBAUM. Thank you very much, Mr. Broderick. We appreciate the testimony of everybody this morning.

[The following information was subsequently received for the record:]

QUESTIONS OF SENATOR EXON AND THE ANSWERS

Question 1. Has deregulation, and the competitive pressures that it has put on commuter airlines, like all carriers, in any way diminished safety in that industry?

Answer. We have not found that deregulation has diminished safety in the commuter industry. In fact, the commuters' safety record has continued to improve since the enactment of the Airline Deregulation Act in 1978.

Question 2. In the weeks following the GAO report on the wide fluctuations in FAA operations and maintenance inspections, what steps have you taken to improve this important responsibility? Do you believe that the commuter airlines have been treated any differently by FAA inspectors than the major air carriers?

Answer. The GAO report concerning FAA inspections did not present an accurate picture of our inspection program in a number of respects. Enclosed is the FAA analysis of the GAO report, which highlights some of the discrepancies we noted in the report. Nevertheless, we have been concerned about a lack of standardization in our national inspection program and, to resolve that issue, developed a comprehen-

sive work program for the field which establishes the numbers and types of inspections to be conducted. A copy of that work program is enclosed. Furthermore, our ongoing effort to increase our inspector workforce will enable us to better regulate our workload and provide better inspection capabilities systemwide. We do not believe that there have been any fundamental differences in the way that FAA inspectors have overseen the commuter airlines versus the major air carriers.

Question 3. What steps has the FAA taken to establish workable standards for the certification of training devices for commuter airlines? Do you believe that nonmotion training devices will provide adequate training for commuter flight crews, or are full-scale flight simulators needed to accomplish this training?

Answer. In April 1984, the FAA sponsored a study to establish workable standards for training devices. A final report (DOT/FAA/VS–84/1, "A Systematic Determination of Skill and Simulator Requirements for Airline Transport Pilot Certification") was published in March 1985. Using data from this report, the FAA intends to publish in the near future an advisory circular containing approval criteria for a training device that has neither motion nor visual systems. We believe that this type of nonmotion training device provides very adequate training for commuter flight crews. It should be noted, however, that this type of training device will not be approved for all of the maneuvers in which training is required. Thus, a portion of a commuter pilot's training must still be accomplished in a full-scale flight simulator and/or an airplane.

Question. 4. Do you believe the current FAA minimum standards for an individual seeking to obtain an Air Transport Pilots license (needed for commercial flight) are adequate? Should higher standards be established to elevate the experience level of these pilots.

Answer. We have no current basis for believing that there should be an increase in requirements for an Air Transport Pilots rating. Given the current high cost of flight training for individual pilots, any increase in flight time would have to be carefully assessed to assure it was justified. It is important to note that fulfilling the FAA's basic requirements to obtain an ATP rating do not, of themselves, enable an individual to serve as an airline pilot. There are a variety of additional training requirements and checks that are necessary to serve as a pilot in air carrier operations. As noted during the November 5 hearing before the Subcommittee, we are hopeful that the increasing availability of training devices and simulators offers the potential for higher quality training to offset a lesser-experienced pilot pool in the future.

Senator KASSEBAUM. That concludes the hearing.

[Whereupon, at 11:47 a.m., the subcommittee was recessed, to reconvene upon the call of the chair.

[The following information was subsequently received for the record:]

STATEMENT OF HON. ROBERT C. BYRD, U.S. SENATOR FROM WEST VIRGINIA

Madam Chairman: Let me begin by commending you for taking a leadership role on the issue of airline safety, and for holding these hearings today.

The issue of commuter airline safety is of particular interest in light of the tragic crash of the Henson Airlines commuter aircraft on September 23, 1985. Commuter airline safety is especially important to states such as West Virginia, which must depend heavily on commuter airlines for air transportation service. It is also important to me personally, as I am sure is the case for most of our colleagues, because I rely quite heavily on commuter service to travel back to my home state so that I can keep in touch with my constituents.

Since the advent of airline deregulation in 1978, commuter airlines have moved aggressively to fill the service gap left by the withdrawal of service by the major airlines from such states as West Virginia. As the following figures indicate, commuter airlines have become a major provider of air service to millions of Americans. In 1978 it is estimated that commuter airlines carried 11.3 million passengers. In 1984, it is estimated that commuters carried 26.1 million passengers. In 1978 there were 681 airports served by commuter airlines. In 1984 the number had grown to 853. Today, it is estimated that commuter airlines account for about 6% of all air travel.

In light of the increasingly important role that commuter airlines are playing in domestic air transportation, it is only prudent that Congress take whatever actions are necessary to ensure the continued safety of commuter passengers. I am encouraged by the record of improvement demonstrated by commuter airlines since 1978.

For example, according to the Federal Aviation Administration, in 1978 there were 61 domestic accidents, 14 of which involved fatalities, attributed to commuter airlines. Out of the 1.3 million hours flown by commuter airlines in that year, there were 48 fatalities as a result of such accidents. Thus, the accident rate per 100,000 hours of flying was 4.68, and the fatal accident rate was 1.08. In 1985, the number of commuter airline hours flown almost doubled to 2.095 million hours. However, the accident rate, as well as the fatal accident rate, declined dramatically from 1978. In that year, there were 14 accidents, 5 of which involved a total of 21 fatalities, for an accident rate of 1.20, and a fatal accident rate of 0.43.

Despite the admirable achievement of the regional airline industry over the past several years, there is room for improvement. For example, FAA statistics indicate that the fatal accident rate for commuter airlines is still about 4 times higher than the rate for the major airlines.

By any standard the commuter airline industry has achieved a commendable record. However, in the competitive environment created by deregulation it is vital to public safety that commuter airlines, as well as the major airlines, do not seek to preserve profit margins by taking short-cuts in passenger safety. Accordingly, every effort should be made to ensure that FAA maintenance standards are not compromised, and that there are adequate numbers of properly trained FAA inspectors to enforce safety standards. In addition, a continuation of the remarkable improvements in the safety record of commuters will depend upon efforts by the airlines themselves to ensure that experience requirements for pilots are adequate so that pilots have the capacity to respond competently to a wide variety of emergency situations.

Adequate training is of particular importance in this regard. It is my understanding that there are significant differences in pilot training programs offered by the major airlines and commuter airlines. As commuter airlines increase in importance as providers of air service, there should be a recognition that adequate pilot training is essential. Indeed, I hope that the issue of commuter pilot training is being given serious consideration both by the FAA and the commuter airline industry.

Let me mention a final concern. The collection and analysis of flight accident data is an important aspect of accident prevention. Only by understanding the causes of flight accidents can we work to prevent them. However, I understand that only certain types of commuter aircraft are required by the FAA to carry voice recorders, and there are no FAA requirements that commuter aircraft carry flight data recorders. I would hope that the Committee will address this issue, and I urge that cost-effective strategies for addressing this problem be developed.

In closing, Madam Chairman, let me say that the commuter airlines are to be commended for the improvements they have made in their safety record. But there is room for further improvement. It is important that safety be the top priority, and that the management of the airline companies never wavers in the commitment to maintaining and improving the record of safety compiled to date.

Thank you again, Madam Chairman, for providing this opportunity for me to express my views on this important topic.

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